B-4 Traffic Patterns [40 CFR 122.25(a)(10)]

The MDC-St. Louis facilities are in the southeast corner of the intersection of Lindbergh and McDonnell Boulevards. Access to the McDonnell Douglas Storage Facilities is off McDonnell Blvd., Lindbergh Blvd., or Banshee Road.

Figure B-7 shows the onsite traffic pattern. The main road, parking lots, and dead-end roads are two-way. Most cars are confined to the parking lot and entrance road. Within the plant, traffic vehicles consist mostly of fork lifts and trucks. Numerous trucks and semitrailers enter the plant each day.

Traffic Control: Traffic is controlled by stop signs, traffic lights, and security guards. These are also indicated in Figure B-7.

Access Road Surfacing: All roads are constructed of either bituminous concrete pavement (blacktop) over a gravel base or bituminous concrete pavement over a concrete base.

Load-Bearing Capacity: All roads are capable of bearing loads up to 16,000 pounds per a single axle, or 32,000 pounds per a tandem axle. The bulk tanker truck or van trailers used to remove inventory from the tank storage or drum storage area have an empty weight of approximately 28,000 pounds, and a loaded weight of approximately 72,000 pounds. Therefore, the facility roads can bear the weight of the trucks.

Traffic Control Signals: The traffic control signal lights are controlled by MDC Security Guards when not on blinking yellow caution.

The following is the estimated volume of daily traffic at the specified storage areas: R

Container Area No. 1 - 30 tugs/forklifts; 3 cars/trucks; 0 aircraft.

Container Area No. 2 - 6 tugs/forklifts; 6 cars/trucks; 0 aircraft.

B-4 (Continued)

*Tanks H-19 and H-20 - 10 tugs/forklifts; 1 car/truck; 0 aircraft.

Tanks H-12, 13, 14, 15, 16 - 10 tugs/forklifts; 1 car/truck; 0 aircraft.

Tanks H-1, 2, 3, 4, 5, 6 - 9 tugs/forklifts; 1 car/truck; 0 aircraft.

*Hush House Waste Tank - 4 tugs/forklifts; 0 cars/trucks; 0 aircraft.

*Fuel Pit No. 3 Waste Tank - 2 tugs/forklifts; 0 cars/trucks; 2 aircraft.

*Fuel Pit No. 4 Waste Tank - 2 tugs/forklifts; 0 cars/trucks; 2 aircraft. R

*F-18 Silencer Waste Tank - 1 tug/forklift; 0 cars/trucks; 0 aircraft.

*Bldg. 28 Waste Tank - 0 tugs/forklifts; 0 cars/trucks; 0 aircraft.

*Ramp Stations 1 and 2 Waste Tank - 4 tugs/forklifts; 0 cars/trucks; 2 aircraft. R

*Bldg. 6 Waste Oil Tank - 0 tugs/forklifts; 0 cars/trucks; 0 aircraft.

Bldg. 14 Sludge Holding Tank - 0 tugs/forklifts; 1 car/truck; 0 aircraft.

* Waste from these areas is recycled, and therefore is exempt from federal hazardous waste regulation under RCRA.

SECTION C

WASTE CHARACTERISTICS

This section describes the chemical and physical nature of the hazardous wastes stored at the McDonnell Douglas Corporation - St. Louis (MDC-St. Louis) facility and the Waste Analysis Plan for sampling, testing, and evaluating the wastes to assure that sufficient information is available for their safe handling. The information submitted is in accordance with the requirements of 40 CFR § 122.25(a)(2) and (3).

C-1 Chemical and Physical Analyses [40 CFR 122.25(a)(2) and 10 CSR 25-7.011(3)(c)]

List of Hazardous Wastes Stored at the Facility: Hazardous wastes are stored at this facility in 55-gallon drum containers, underground, inground, and above-ground tanks and a containerized explosive storage building. The capability of these areas are as follows:

I) Containers - 37,620 gallons;

II) Two 10,000-gallon above-ground tanks;

III) Five 500-gallon above-ground tanks;

IV) Six 750-gallon above-ground tanks;

V) One 3,380-gallon below-ground tank; R

VI) Two 2,000-gallon below-ground tanks; R

VII) One 2,000-gallon below-ground tank;

VIII) One 5,000-gallon below-ground tank;

IX) One 1,000-gallon below-ground tank;

X) One 120,000-gallon inground tank;

XI) Explosive Storage Building, 30,300 gallons, containerized;

XII) One 4,380-gallon below-ground tank. R

IV) The six 750-gallon above-ground tanks are used to hold waste acid solution (nitric acid, hydrofluoric acid) from titanium chemical milling. The Production Department process tank drain is connected to these tanks and only this waste solution enters the storage tanks. This waste is hazardous due to Corrosivity (pH), D002. Leaks are contained by a two-stage impervious asphalt curb. Each curbed area is drained into the previously mentioned industrial waste water sewer. This curb system is designed so that if the primary curbing fails for any reason, the secondary curb system will provide 100% redundancy.

V) The one 3,380-gallon underground tank is used to hold waste turbine engine (jet aircraft) fuel and hydraulic system spillage. This tank accumulates waste in two fashions. First, an oil separator serves an area where aircraft have their engines adjusted. Any spills or leaks during this operation enter this separator and are diverted to the underground tank. Second, when an aircraft is fueled, catch dollies are positioned at the aircraft tank vents to collect overfilling. These dollies are emptied directly into this underground tank. This waste is hazardous due to Ignitability (flash point), D001. The tank is equipped with a liquid level-sensing system that indicates when the tank is approximately 80% full. This system signals this condition in the area Maintenance shop and is used to determine removal frequency. Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well located adjacent to this buried tank. R

VI) The two 2,000-gallon underground tanks are used to collect and hold waste turbine engine (jet aircraft) fuel that is spilled during fueling or defueling operations. These tanks are equipped with level indicator systems that sound an alarm when they become approximately 75% full. This alarm alerts area Maintenance to initiate waste removal activities. This waste is hazardous due to Ignitability (flash point), D001. Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well located adjacent to this buried tank. R

VII) The one 2,000-gallon underground tank is used to collect waste turbine engine (jet engine) fuel and hydraulic system spillage. An oil separator serves the work area. Any spills that occur enter the separator and are diverted to the underground tank. This waste is hazardous due to Ignitability (flash point), D001. This tank is equipped with a level indicator system that flashes an alarm when it becomes approximately 75% full. This alarm alerts area Maintenance to initiate waste removal activities. Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well located adjacent to this buried tank.

VIII) The one 5,000-gallon underground tank is used to hold jet aircraft fuels that are leaked or spilled during the testing of aircraft fuel systems. Fuels enter a separator where they are diverted into this underground tank. This waste is hazardous due to Ignitability (flash point), D001. Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well located adjacent to this buried tank.

IX) The one 1,000-gallon underground tank is used to hold oil that has been separated from the condensate of an oil-lubricated, steam-operated compressor. This waste contains more than 10% oil and is therefore defined as hazardous waste by Missouri Regulation 10 CSR 25-4.020. Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well located adjacent to this buried tank.

X) The one 120,000-gallon inground tank is an open top tank. This tank is used to contain waste water treatment sludge prior to dewatering. This sludge is a hazardous waste from non-specific source (F006 and F019). The only fill line to this inground tank is from the sludge-accumulating tanks of the waste water pretreatment plant. This inground tank is equipped with an overflow drain which leads to the influent of our waste water pretreatment plant.

XI) The 30,300-gallon storage area is used to contain ammunition and explosives that have been declared waste because they are outdated or have been damaged. This area is a designated section of the building that is used to contain the non-waste ammunition and explosives.

XII) The one 4,380-gallon underground tank is used to collect waste turbine engine (jet engine) fuels that are leaked or spilled during the repair of aircraft fuel systems. Fuels enter a separator, where they are diverted into this underground tank. This waste is hazardous due to Ignitability (flash point), D001. Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well located adjacent to this buried tank. R

Step 7B (Continued)

necessary manifest. Once the drums are received in the Container Storage Area, the EPC operator keeps daily records of the inventory, and upon accumulation of sufficient quantity, initiates a removal to a treatment or disposal facility. The analysis of the drum contents has already been obtained in Step 6.

C-2a Parameters and Rationale

Table C-1 shows the various hazardous wastes that may be stored at this facility, the analytical parameters that apply to each, the rationale for their selection, the DOT shipping name, and the DOT identification number.

C-2b Test Methods

Table C-2 shows the test methods that are used to measure the analytical parameters. All test methods are from Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1982, or other EPA-approved methods. R

C-2c&d Sampling Methods/Frequency of Analysis

Table C-3 lists: (1) the methods used to sample each of our hazardous waste streams; and (2) the frequency of analysis. Note that this frequency is based on no known changes occurring in the individual hazardous waste stream; therefore, this will provide proof of no change. When known changes do occur, we perform a waste stream analysis to determine if there is any change in the hazardous waste characteristics.

TABLE C-1

WASTE CHARACTERISTICS

PARAMETERS AND RATIONALE FOR THEIR SELECTION

MO ID NO.	HAZARDOUS WASTE	HAZARDOUS PARAMETER	RATIONALE	DOT PROPER SHIPPING NAME	DOT ID NUMBER
001	Waste acid solution from titanium metal surface cleaning. (Nitric and Chromic Acid)	pH; EP Toxicity (Cr^{+6}, Cd)	This solution is a Hazardous Waste due to EP Toxicity (D007) and Corrosivity (D002).	Waste Corrosive Liquid, N.O.S.	UN1760
003	Waste acid solution from oxide removal on aluminum and titanium surfaces. (Nitric Acid, Potassium Dichromate, Potassium Nitrate, Sodium Bifluoride)	pH; EP Toxicity (Cr^{+6})	This solution is a Hazardous Waste due to EP Toxicity (D007) and Corrosivity (D002).	Waste Corrosive Liquid, N.O.S.	UN1760
006	Waste acid and chlorinated solvent from paint stripping. (Hydrofluoric Acid with Phenol and Methylene Chloride)	pH; EP Toxicity (Cr^{+6}) (Listed Waste)	This solution is a Hazardous Waste due to EP Toxicity (D007) and is a generic Hazardous Waste (F002).	Waste Corrosive Liquid, N.O.S.	UN1759
008	Waste acid solution from a chemical conversion coating process of aluminum and titanium surfaces. (Chromic Acid, Fluorides, Ferricyanide)	pH; EP Toxicity (Cr^{+6}); Reactivity (Ferricyanide)	This solution is a Hazardous Waste due to EP Toxicity (D007); Corrosivity (D002); and Reactivity (D003).	Waste Corrosive Liquid, N.O.S.	UN1760
009	Waste acid and chlorinated solvent solution from a coating removal operation. (Methylene Chloride, Formic Acid, Phenol)	pH (Listed Waste)	This solution is a Hazardous Waste due to Corrosivity (D002) and is a generic waste (F002).	Waste Corrosive Liquid, N.O.S.	UN1760

TABLE C-1

MO ID NO.	HAZARDOUS WASTE	HAZARDOUS PARAMETER	RATIONALE	DOT PROPER SHIPPING NAME	DOT ID NUMBER
010	Waste acid solution from aluminum metal surface cleaning. (Sulfuric Acid, Sodium Dichromate)	pH; EP Toxicity (Cr^{+6})	This solution is a Hazardous Waste due to EP Toxicity (D007) and Corrosivity (D002).	Waste Sulfuric Acid Mixture	UN1830
012	Waste acid solution from cleaning and pickling aluminum and titanium. (Nitric and Hydrofluoric Acid)	pH; EP Toxicity (Cr^{+6})	This solution is a Hazardous Waste due to Corrosivity (D002) and EP Toxicity (D007).	Waste Corrosive Liquid, N.O.S.	UN1760
013	Waste acid solution from chromic acid anodizing of aluminum and titanium. (Chromic Acid, Ferric Nitrate, Potassium Fluoride)	pH; EP Toxicity (Cr^{+6}, Cd, Pb)	This solution is a Hazardous Waste due to Corrosivity (D002) and EP Toxicity (D007).	Waste Corrosive Liquid, N.O.S.	UN1760
014	Waste acid solution from an aluminum hard coating operation. (Sulfuric and Oxalic Acid)	pH; EP Toxicity (Cr^{+6})	This solution is a Hazardous Waste due to Corrosivity (D002) and EP Toxicity (D007).	Waste Corrosive Liquid, N.O.S.	UN1760
016	Waste acid from stainless steel pickle or pretreatment. (Hydrochloric Acid)	pH; EP Toxicity (Cr^{+6})	This solution is a Hazardous Waste due to Corrosivity (D002) EP Toxicity (D007).	Waste Hydrochloric Acid	UN1789
017	Waste solution from stripping cadmium plating. (Ammonium Nitrate)	EP Toxicity (Cd)	This solution is a Hazardous Waste due to EP Toxicity (D006).	Waste Ammonium Nitrate Solution	NA2426
021	Waste acid from a stainless steel cleaning process. (Hydrofluoric and Sulfuric Acid)	pH	This solution is a Hazardous Waste due to Corrosivity (D002).	Waste Corrosive Liquid, N.O.S.	UN1760

TABLE C-1

MO ID NO.	HAZARDOUS WASTE	HAZARDOUS PARAMETER	RATIONALE	DOT PROPER SHIPPING NAME	DOT ID NUMBER
022	Waste acid solution and sludge from various metal etching and cleaning. (Nitric, Chromic, Hydrofluoric Acids)	pH; EP Toxicity (Cr^{+6}, Pb)	This solution is a Hazardous Waste due to Corrosivity (D002) and EP Toxicity (D007, D008).	Waste Corrosive Liquid, N.O.S.	UN1760
023	Waste acid solution from metal surface passivation. (Nitric Acid)	pH	This solution is a Hazardous Waste due to Corrosivity (D002).	Waste Nitric Acid	UN2031
024	Waste alkaline solution from stripping of chromium plating. (Sodium Hydroxide, Sodium Carbonate, Sodium Phosphate, Chromium)	pH; EP Toxicity (Cr^{+6})	This solution is a Hazardous Waste due to Corrosivity (D002) and EP Toxicity (D007).	Waste Sodium Hydroxide Solution	UN1824
025	Waste alkaline solution from derust cleaning of metal parts. (Sodium Hydroxide, Triethanolamine, Sodium Gluconate, Kerosene)	pH; EP Toxicity (Cr^{+6})	This solution is a Hazardous Waste due to Corrosivity (D002) and EP Toxicity (D007).	Waste Alkaline Liquid, N.O.S.	NA1719
026	Waste alkaline solution from cadmium cyanide plating operation. (Sodium Cyanide, Sodium Hydroxide, Cadmium Oxide, Sodium Carbonate)	EP Toxicity (Cd) (NaCN); Reactivity (Cyanide)	This solution is a Hazardous Waste due to EP Toxicity (D006) and Reactivity (D003).	Waste Corrosive Liquid, Poison, N.O.S.	UN2922
028	Waste potassium dichromate solution from anodize sealing.	EP Toxicity (Cr^{+6})	This solution is a Hazardous Waste due to EP Toxicity (D007).	Waste Corrosive Liquid, N.O.S.	UN1760

TABLE C-1

MO ID NO.	HAZARDOUS WASTE	HAZARDOUS PARAMETER	RATIONALE	DOT PROPER SHIPPING NAME	DOT ID NUMBER
029	Waste alkaline cleaning solution from cleaning aluminum. (Sodium Tripolyphosphate, Sodium Borate, Sodium Nitrate, Sodium Chromate)	EP Toxicity (Cr^{+6}, Pb)	This solution is a Hazardous Waste due to EP Toxicity (D007, D008).	Hazardous Waste, Liquid, N.O.S.	NA9189
031	Waste ferric chloride solution from metal etching.	pH; EP Toxicity (Cr^{+6})	This solution is a Hazardous Waste due to Corrosivity (D002) and EP Toxicity (D007).	Waste Ferric Chloride Solution	UN2582
035	Waste alkaline solution from aluminum chemical milling.	EP Toxicity (Cr^{+6}); Reactivity (S^{2})	This solution is a Hazardous Waste due to EP Toxicity (D007) and Reactivity (D003).	Waste Sodium Hydroxide Solution	UN1824
036	Sludge from industrial waste water pretreatment plant.	Listed Waste	This solution is a Hazardous Waste because it is a waste water treatment sludge from electroplating operations (F006) and aluminum chemical conversions (F019).	Hazardous Waste, Liquid, N.O.S.	NA9189
037	Water-emulsified cutting oil from cutting and machining aluminum, titanium and ferrous base metals and alloys.	Missouri Listed Waste	Contains more than 10% oil and is defined as Hazardous Waste by Missouri Regulation 10 CSR 25-4.020.	Not Regulated	Not Regulated
038	Solid hazardous waste from aircraft painting and servicing.	EP Toxicity (Pb)	This is a Hazardous Waste due to EP Toxicity (D008).	Hazardous Waste, Solid, N.O.S.	NA9189

TABLE C-1

MO ID NO.	HAZARDOUS WASTE	HAZARDOUS PARAMETER	RATIONALE	DOT PROPER SHIPPING NAME	DOT ID NUMBER
039	Explosive devices which have exceeded their service lives or have been damaged so that they are not usable.	Explosive Devices DOT Classes "B" and "C"	This material is a Hazardous Waste due to Reactivity (D003).	Hazardous Waste, Solid, N.O.S.	NA9189
040	Waste paint sludge from aircraft and building maintenance.	EP Toxicity (Cr^{+6})	This material is a Hazardous Waste due to EP Toxicity (D007).	Hazardous Waste, Solid, N.O.S.	NA9189
041	Waste chlorinated solvents from metal cleaning, degreasing operations, and paint stripping.	Trichloroethylene, methylene chloride, 1,1,1-trichloroethane (Listed Waste)	This material is a Hazardous Waste from nonspecific sources (F001, F002, D008).	Waste ORM-A, N.O.S.	NA1693
042	Waste jet fuel contaminated with water.	Flash Point	This waste is ignitable (D001).	Waste Flammable Liquid, N.O.S.	UN1993
043	Mixed waste solvents.	Acetone, xylene, toluene, methyl ethyl ketone (Listed Waste)	Flash Point; this waste is ignitable (D001) and a Hazardous Waste from nonspecific sources (F003, F005).	Waste Flammable Liquid, N.O.S.	UN1993
044	Waste hydraulic and motor oil.	Missouri Listed Waste	Contains more than 10% oil and is defined as Hazardous Waste by Missouri Regulation 10 CSR 25-4.020.	Hazardous Waste, Liquid, N.O.S.	NA9189
045	Waste coolant from metal cutting. (Triethanolamine, Sodium Nitrite, Potassium Chromate)	EP Toxicity (Cr^{+6})	This solution is Hazardous Waste due to EP Toxicity (D007).	Hazardous Waste, Liquid, N.O.S.	NA9189

TABLE C-1

MO ID NO.	HAZARDOUS WASTE	HAZARDOUS PARAMETER	RATIONALE	DOT PROPER SHIPPING NAME	DOT ID NUMBER
049	Waste solution and sludge from developing x-ray film, photos, microfiche, and microfilm (Silver Sludge).	EP Toxicity (Ag)	This solution is a Hazardous Waste due to EP Toxicity (D011).	Hazardous Waste, Liquid, N.O.S.	NA9189
050	Empty containers which have contained hazardous waste.	Para. 261.33(C)	These containers have held a commercial chemical product listed in Para. 261.33(C) and have not been triple rinsed. MO Waste (MK13)		
052	Waste sodium bicarbonate or potassium hydroxide with phenol.	EP Toxicity (As, Cr^{+6}); pH	This solution is a Hazardous Waste due to EP Toxicity (D004, D007) and Corrosivity (D002).	Not Regulated	Not Regulated
053	Waste sodium bicarbonate used to neutralize an acid spill.	EP Toxicity (Cr^{+6})	This is a Hazardous Waste due to EP Toxicity (D007).	Not Regulated	Not Regulated
054	Compressed gases.	Para. 261.33	These wastes are listed commercial chemical products (ignitable, corrosive, hazardous, toxic).		
056	Waste acid solution for stripping nickel plating.	EP Toxicity (Cd, Cr^{+6}, Pb)	This solution is Hazardous Waste due to EP Toxicity (D006, D007, D008).	Waste Corrosive Liquid, N.O.S.)	UN1760
057	Sodium hydroxide solids from fume scrubber.	pH	This is a Hazardous Waste due to Corrosivity (D002).	Waste Corrosive Solids, N.O.S.	UN1759

TABLE C-1

MO ID NO.	HAZARDOUS WASTE	HAZARDOUS PARAMETER	RATIONALE	DOT PROPER SHIPPING NAME	DOT ID NUMBER
059	Synthetic fuel (fuel oil, coal, and water).	Missouri Listed Waste	This is a Hazardous Waste because it contains more than 10% oil and is defined as Hazardous Waste by Missouri Regulation 10 CSR 25-4.020.	Not Regulated	Not Regulated
063	Lime	pH	This is a Hazardous Waste due to Corrosivity (D002).	Not Regulated	Not Regulated
069	Plating solution for ferrous and non-ferrous alloys (nickel sulfamate, boric acid).	EP Toxicity (Cd)	This solution is a Hazardous Waste due to EP Toxicity (D006).	Hazardous Waste, Liquid, N.O.S.	NA9189
070	Phosphatizing of ferrous metal (phosphoric acid).	EP Toxicity (Cd, Pb); Reactivity (CN)	This solution is a Hazardous Waste due to EP Toxicity (D006, D008) and Reactivity (D003).	Waste Corrosive Liquid, N.O.S.	UN1760
075	Mold material for die-casting metals.	pH; EP Toxicity (As, Ba, Cd, Pb, Se)	This solution is a Hazardous Waste due to Corrosivity (D002) and EP Toxicity (D004, D005, D006, D008, D010).	Hazardous Waste, Liquid, N.O.S.	NA9189
080	Miscellaneous laboratory chemicals packed in a 55-gallon "lab pack".	EP Toxicity (As, Ba, Cd, Cr^{+6}, Pb, Se, Ag); Reactivity (CN); pH; Flash Point	This is a Hazardous Waste due to EP Toxicity (D004, D005, D006, D007, D008, D009, D010, D011), Reactivity (D003), Ignitability (D001), and Corrosivity (D002).	Will vary with each drum and will be specified at the time of shipment.	Will vary

TABLE C-1

MO ID NO.	HAZARDOUS WASTE	HAZARDOUS PARAMETER	RATIONALE	DOT PROPER SHIPPING NAME	DOT ID NUMBER
086	Metal treating solution in tooling manufacturing.	pH	This solution is a Hazardous Waste due to Corrosivity (D002).	Waste Sodium Hydroxide Solution	UN1824
088	Scale conditioner for exotic scales on metals.	pH; Reactivity (CN)	This solution is a Hazardous Waste due to Corrosivity (D002, D003).	Hazardous Waste, Solid, N.O.S.	NA9189
091	Miscellaneous acid sludges.	pH; EP Toxicity (Cd, Cr^{+6})	This sludge is Hazardous Waste due to Corrosivity (D002) and EP Toxicity (D007 and D008).	Waste Corrosive Solids, N.O.S.	UN1759
092	Miscellaneous alkaline sludges.	pH; EP Toxicity; Reactivity (CN)	This sludge is Hazardous Waste due to Corrosivity (D002), EP Toxicity (D007, D008), and Reactivity (D003).	Waste Corrosive Solids, N.O.S.	UN1759

NOTE: Missing Missouri ID Numbers indicate that the waste is not being generated at this time, or is no longer classified as hazardous waste, or has been combined with another Missouri ID Number which was a similar waste.

TABLE C-2
PARAMETERS AND TEST METHODS

	PARAMETER	TEST METHOD	REFERENCE	
1.	pH	Electrometric	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1982	
2.	Flash Point	Pensky-Martens Closed-Cap Tester	ASTM Standard D-93-79 or D-93-80	
3.	EP Toxicity	EP Toxicity Test Procedure	40 CFR 261, Appendix II	
4.	Reactivity (Cyanide)	Distillation - Colori-metric	Standard Methods for the Examination of Water and Wastewater	
5.	Reactivity (Sulfide)	Methylene Blue	Standard Methods for the Examination of Water and Wastewater	
6.	Corrosivity	SAE 1020 Corrosion	National Association of Corrosion Engineers - Standard TM-01-69	
7.	Arsenic	Atomic Absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1982	R
8.	Barium	Atomic Absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1982	R
9.	Cadmium	Atomic Absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1982	R
10.	Chromium (VI)	Atomic Absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1982	R
11.	Lead	Atomic Absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1982	R
12.	Mercury	Atomic Absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1982	R
13.	Selenium	Atomic Absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1982	R
14.	Silver	Atomic Absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1982	R
15.	Organics	Gas Chromatography	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1982	R

TABLE C-3

METHODS USED TO SAMPLE HAZARDOUS WASTES
AND
FREQUENCY OF ANALYSIS

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
001	Waste acid solution from titanium metal surface cleaning. (nitric and chromic acid)	pH; EP Toxicity (Cr^{+6}, Cd)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846
003	Waste acid solution from oxide removal on aluminum and titanium surfaces. (nitric acid, potassium dichromate, potassium nitrate, sodium biflouride)	pH; EP Toxicity (Cr^{+6})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
006	Waste acid and chlorinated solvent from paint stripping. (hydrofluoric acid with phenol and methylene chloride)	pH; EP Toxicity (Cr^{+6}); Listed Waste	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846
008	Waste acid solution from a chemical conversion coating process of aluminum and titanium surfaces. (chromic acid, fluorides, ferricyanide)	pH; EP Toxicity (Cr^{+6}); Reactivity (Ferricyanide)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
009	Waste acid and chlorinated solvent solution from a coating removal operation. (methylene chloride, formic acid, phenol)	pH; Listed Waste	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
010	Waste acid solution from aluminum metal surface cleaning. (sulfuric acid, sodium dichromate)	pH; EP Toxicity	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
012	Waste acid solution from cleaning and pickling aluminum and titanium. (nitric and hydrofluoric acid)	pH; EP Toxicity (Cr^{+6})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
013	Waste acid solution from chromic acid anodizing of aluminum and titanium. (chromic acid, ferric nitrate, potassium fluoride)	pH; EP Toxicity (Cr^{+6}, Cd, Pb)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
014	Waste acid solution from an aluminum hard coating operation. (sulfuric and oxalic acid)	pH; EP Toxicity (Cr^{+6})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
016	Waste acid from stainless steel pickle or pretreatment. (hydrochloric acid)	pH; EP Toxicity (Cr^{+6})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
017	Waste solution from stripping cadmium plating. (ammonium nitrate)	EP Toxicity (Cd)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
021	Waste acid from a stainless steel cleaning process. (hydrofluoric and sulfuric acid)	pH	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
022	Waste acid solution and sludge from various metal etching and cleaning. (nitric, chromic, and hydrofluoric acid)	pH; EP Toxicity (Cr^{+6}, Pb)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
023	Waste acid solution from metal surface passivation. (nitric acid)	pH	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
024	Waste alkaline solution from stripping of chromium plating. (sodium hydroxide, sodium carbonate, sodium phosphate, chromium)	pH; EP Toxicity (Cr^{+6})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
025	Waste alkaline solution derust cleaning of metal parts. (sodium hydroxide, triethanolamine, sodium gluconate, kerosene)	pH; EP Toxicity (Cr^{+6}, Cd)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
026	Waste alkaline solution from cadmium cyanide plating operation. (sodium cyanide, sodium hydroxide, cadmium oxide, sodium carbonate)	EP Toxicity (Cd, NaCN)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
028	Waste potassium dichromate solution from anodize sealing.	EP Toxicity (Cr^{+6})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
029	Waste alkaline cleaning solution from cleaning aluminum. (sodium tripolyphosphate, sodium borate, sodium nitrate, sodium chromate)	EP Toxicity (Cr^{+6}, Pb)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
031	Waste ferric chloride solution from metal etching.	pH; EP Toxicity (Cr^{+6})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
035	Waste alkaline solution from aluminum chemical milling.	EP Toxicity (Cr^{+6}); Reactivity (S^{-2})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
036	Sludge from industrial waste water pretreatment plant.	Listed Waste	Each time a removal is made, but not to exceed one sample in a 12-month period.	Solid waste samples from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Page 11.	Composite sample using a trier scoop from six points in a nine cubic yard container.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
037	Water-emulsified cutting oil from cutting and machining aluminum, titanium, and ferrous base metals and alloys.	Missouri Listed Waste	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
038	Solid hazardous waste from aircraft painting and servicing.	EP Toxicity (Pb)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Solid waste samplers from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 12 and 13.	Composite sample using a scoop from containers of solid waste.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
039	Explosive devices which have exceeded their service lives or have been damaged so that they are not usable.	Explosive Devices DOT Classes "B" and "C"				

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
040	Waste paint sludge from aircraft and building maintenance.	EP Toxicity (Cr^{+6})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Solid waste samplers from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 12 and 13.	Composite sample using a scoop from waterfalls in paint booths.	Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846
041	Waste chlorinated solvents from metal cleaning and degreasing operations and paint stripping.	Trichloroethylene, methylene chloride, 1,1,1-trichloroethane (Listed Waste)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
042	Waste jet fuel contaminated with water.	Flash Point	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
043	Mixed waste solvents.	Acetone, xylene, toluene, methyl ethyl ketone (Listed Waste)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
044	Waste hydraulic and motor oil.	Missouri Listed Waste	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
045	Waste coolant from metal cutting. (triethanolamine, sodium nitrite, potassium chromate)	EP Toxicity (Cr^{+6})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
049	Waste solution and sludge from developing x-ray film, photos, microfiche, and microfilm. (silver sludge)	EP Toxicity (Ag)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846.
050	Empty containers which have contained hazardous waste.	Par. 261.33(c)				
052	Waste sodium bicarbonate or potassium hydroxide with phenol.	EP Toxicity (As, Cr^{+6}); pH	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/ 2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
053	Waste sodium bicarbonate used to neutralize an acid spill.	EP Toxicity (Cr^{+6})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Solid waste samplers from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 12 and 13.	Composite sample using a scoop.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
054	Compressed gases.	Par. 261.33				
056	Waste acid solution for stripping nickel plating.	EP Toxicity (Cd, Cr^{+6}, Pb)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
057	Sodium hydroxide solids from fume scrubber.	pH	Each time a removal is made, but not to exceed one sample in a 12-month period.	Solid waste samplers from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 12 and 13.	Composite sample using a scoop.	Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846
059	Synthetic fuel. (fuel oil, coal, and water)	Missouri Listed Waste	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or tank, using a scoop.	Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846
063	Lime	pH	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	Representative composite sample from three grab samples, using a grain sampler or a Trier scoop.	Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
069	Plating solution for ferrous and non-ferrous alloys. (nickel sulfamate, boric acid)	EP Toxicity (Cd)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
070	Phosphatizing of ferrous metal. (phosphoric acid)	EP Toxicity (Cd, Pb); Reactivity (CN)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
075	Mold material for die-casting metals.	pH; EP Toxicity (As, Ba, Cd, Pb, Se)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
080	Miscellaneous laboratory chemicals packed in a 55-gallon "lab pack".	EP Toxicity (As, Ba, Cd, Cr^{+6}, Pb, Se, Ag); Reactivity (CN); Flash Point; pH	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
082	Pickling solution for aluminum alloys. (nitric acid, hydrofluoric acid, sulfuric acid)	pH; EP Toxicity (Cd, Cr^{+6})	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
086	Metal treating solution in tooling manufacturing.	pH	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

TABLE C-3

MO ID NO.	HAZARDOUS WASTE	ANALYSIS	FREQUENCY	SAMPLING METHOD	DESCRIPTION OF SAMPLING	REFERENCE FOR SAMPLER
088	Scale conditioner for exotic scales on metals.	pH; Reactivity (CN)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank, using a Trier scoop.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
091	Miscellaneous acid sludges.	pH; EP Toxicity (Cd, Cr^{+6}, Pb)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/ 2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank, using a Trier scoop.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846
092	Miscellaneous alkaline sludges.	pH; EP Toxicity; Reactivity (CN)	Each time a removal is made, but not to exceed one sample in a 12-month period.	Sampling a drum or storage tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA-600/2-80-018, Pages 36 and 38.	A representative sample from a drum or a tank, using a Trier scoop.	Test Methods for the Evaluation of Solid Waste, Physical/ Chemical Methods, EPA-SW-846

SECTION D

PROCESS INFORMATION

The information provided in this section is submitted in accordance with the requirements of 40 CFR Part 122.25(b)(1), (2), and (4) and 10 CSR 25-7.030(3) and 7.050(3) and (4). Other regulations addressed to complete this section include 40 CFR §264.17, §264.175, §264.176, §264.177, §264.191, §264.192, §264.198, §264.199, §264.252, §264.253, §264.256, and §264.257.

This section discusses specific process information for the storage of containers and tanks. McDonnell Douglas Corporation - St. Louis (MDC-St. Louis) stores hazardous wastes at this facility in 55-gallon drum containers, underground, inground, and above-ground tanks and a containerized explosive storage building. The capability of these areas are as follows:

I) Containers - 37,620 gallons;

II) Two 10,000-gallon above-ground tanks;

III) Five 500-gallon above-ground tanks;

IV) Six 750-gallon above-ground tanks;

V) One 3,380-gallon below-ground tank; R

VI) Two 2,000-gallon below-ground tanks; R

VII) One 2,000-gallon below-ground tank;

VIII) One 5,000-gallon below-ground tank;

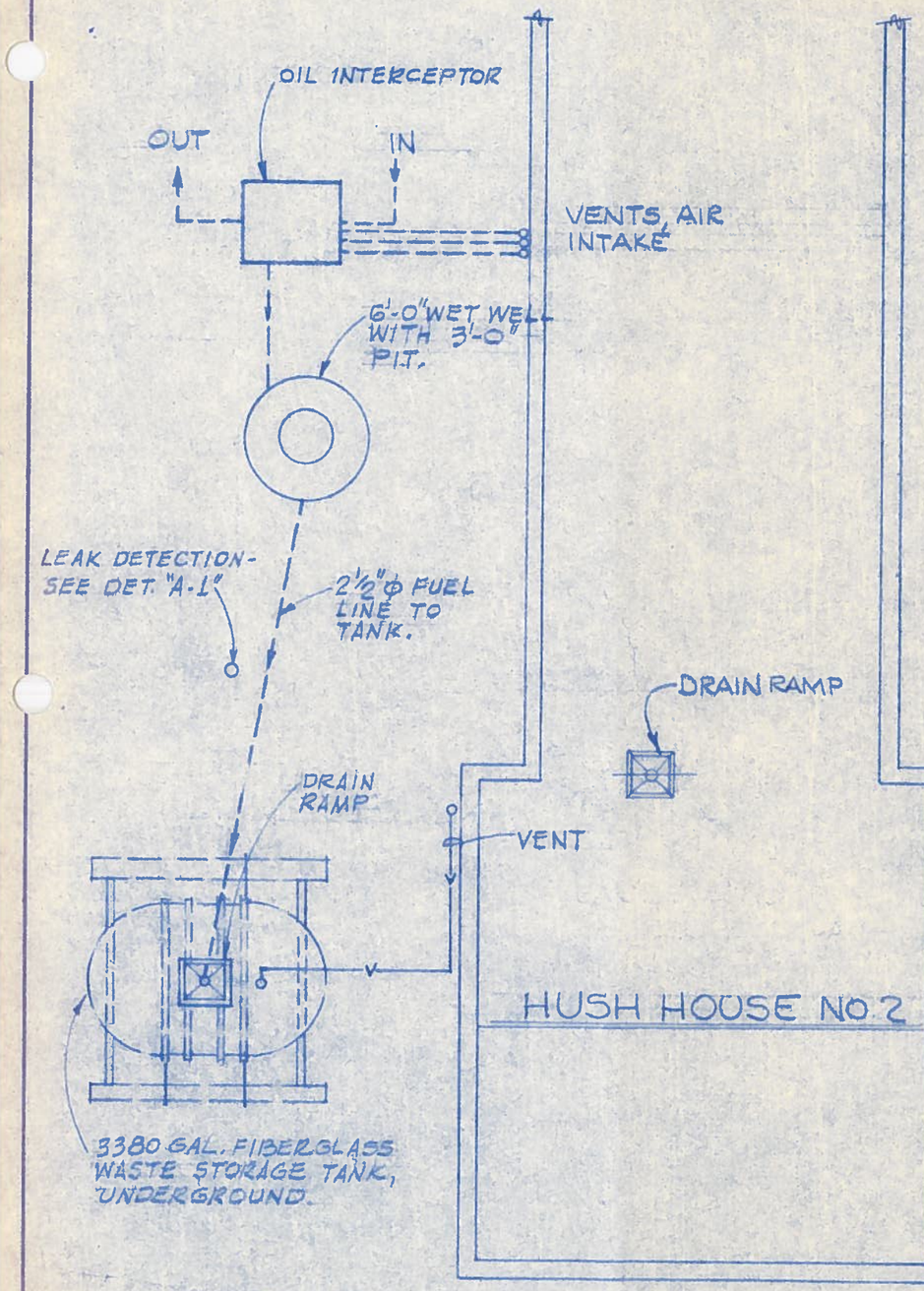
IX) One 1,000-gallon below-ground tank;

X) One 120,000-gallon inground tank;

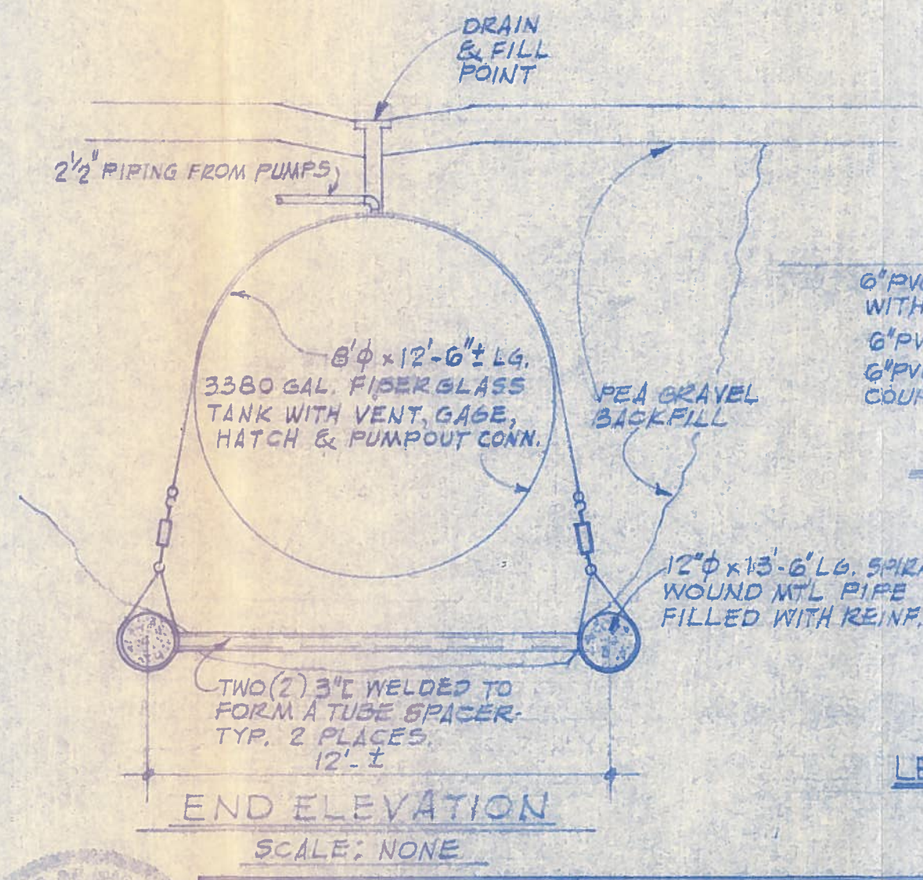
XI) One Explosive Storage Building, 30,300 gallons, containerized;

XII) One 4,380-gallon below-ground tank. R

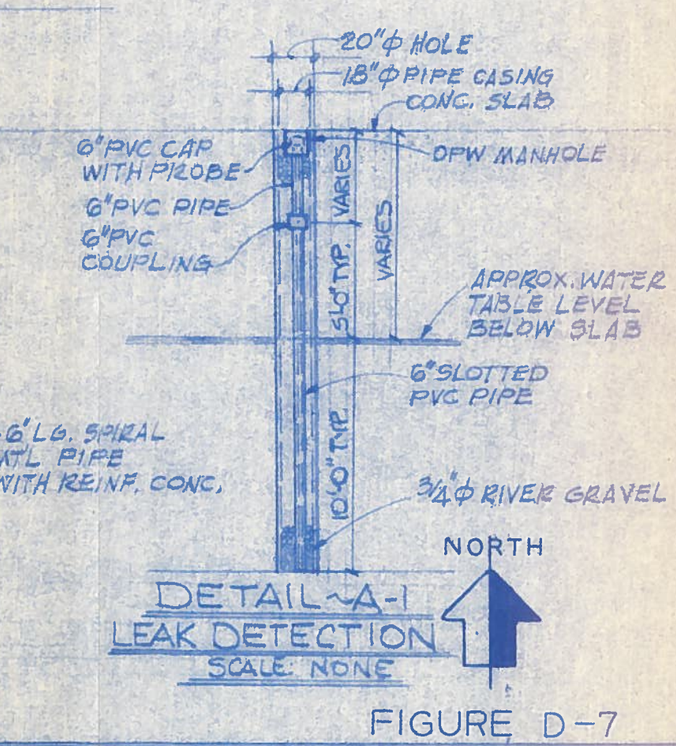
These storage area designs were all certified by a registered Professional Engineer.



PLAN VIEW
HUSH HOUSE ~ WASTE TANK
SCALE: NONE



END ELEVATION
SCALE: NONE



DETAIL ~ A-1
LEAK DETECTION
SCALE: NONE

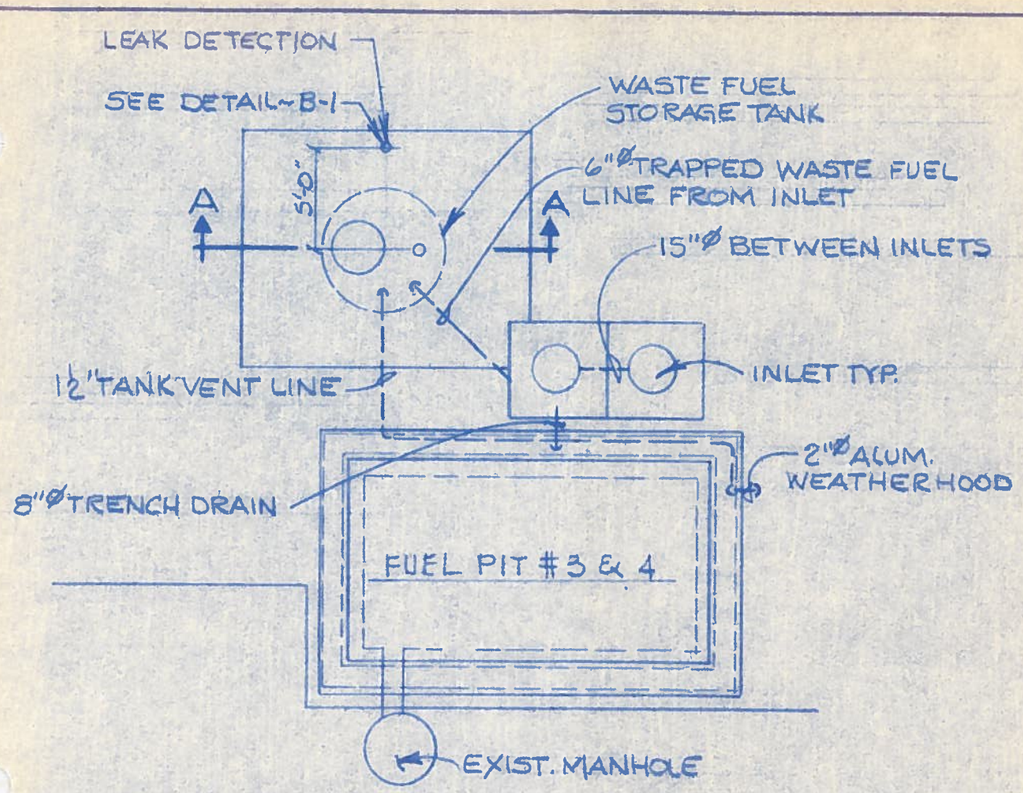
FIGURE D-7

SCALE	AS SHOWN	
DRAWN	K MOYER	
APPROVED		9/27/82
APPROVED		9/27/82
R.F.F.O.	F.O.	

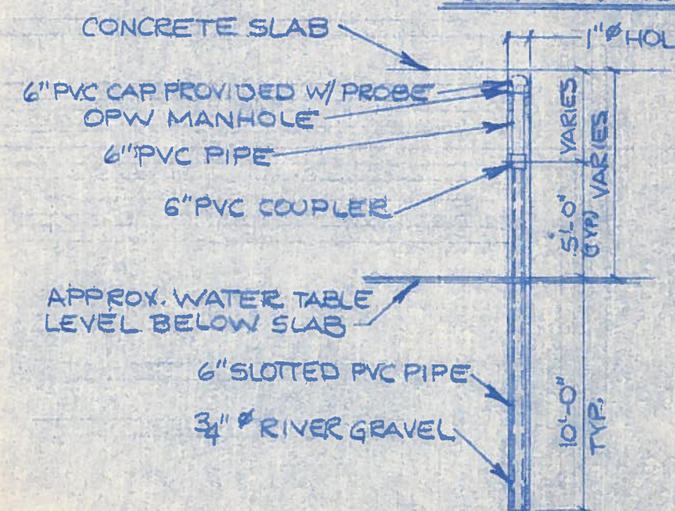
MDC — ST LOUIS
HAZARDOUS WASTE
HUSH HOUSE WASTE TANK

APPROVED FOR CONSTRUCTION
BY
DATE

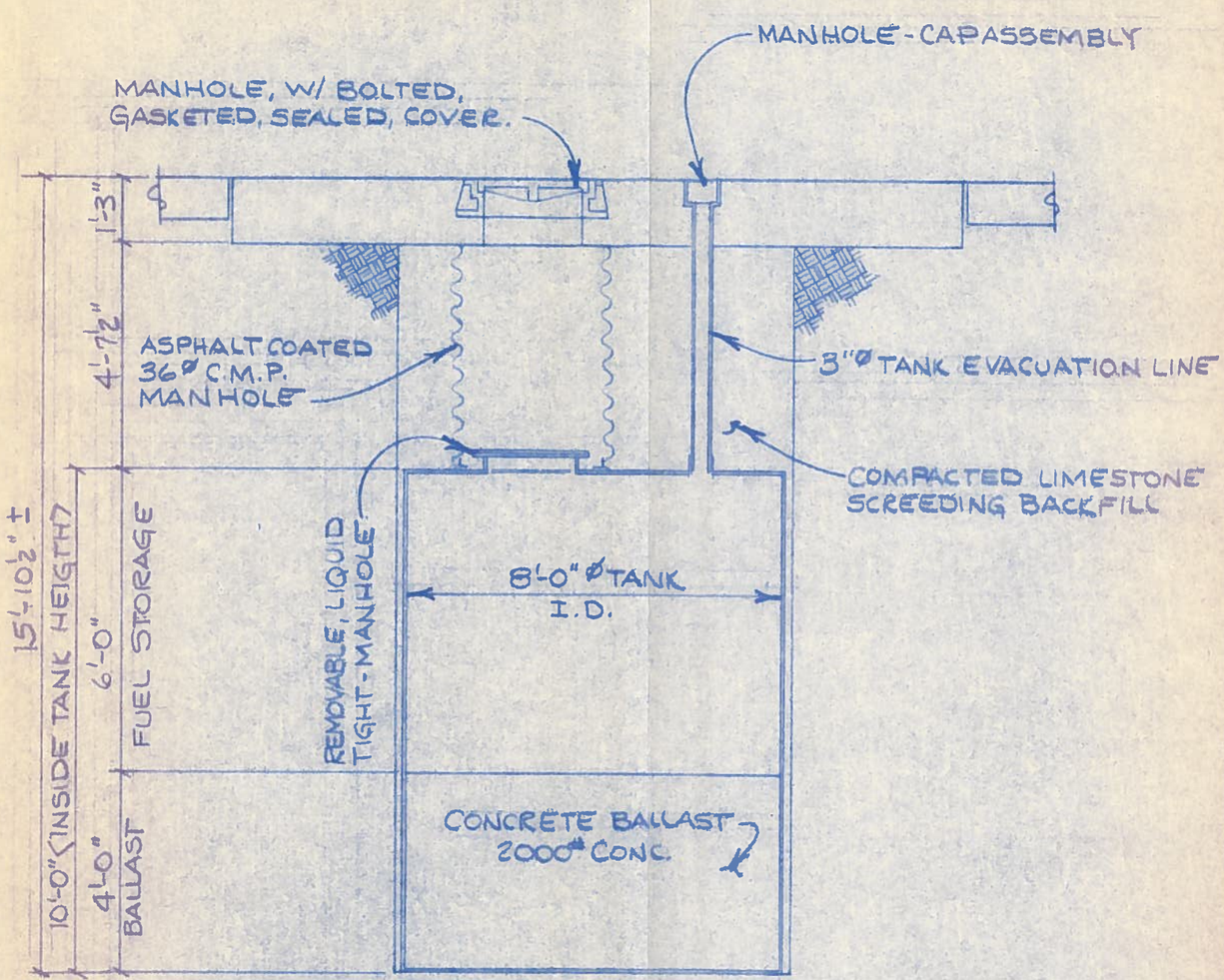
McDONNELL AIRCRAFT COMPANY
McDONNELL DOUGLAS CORPORATION
PLANT ENGINEERING
SKPE SHEET 1 OF 1



PLAN VIEW
FUEL PIT & WASTE TANK
SCALE: NONE



DETAIL-B-1
LEAK DETECTION
SCALE: NONE



SECTION-A-A
STORAGE TANK
SCALE: NONE

NORTH

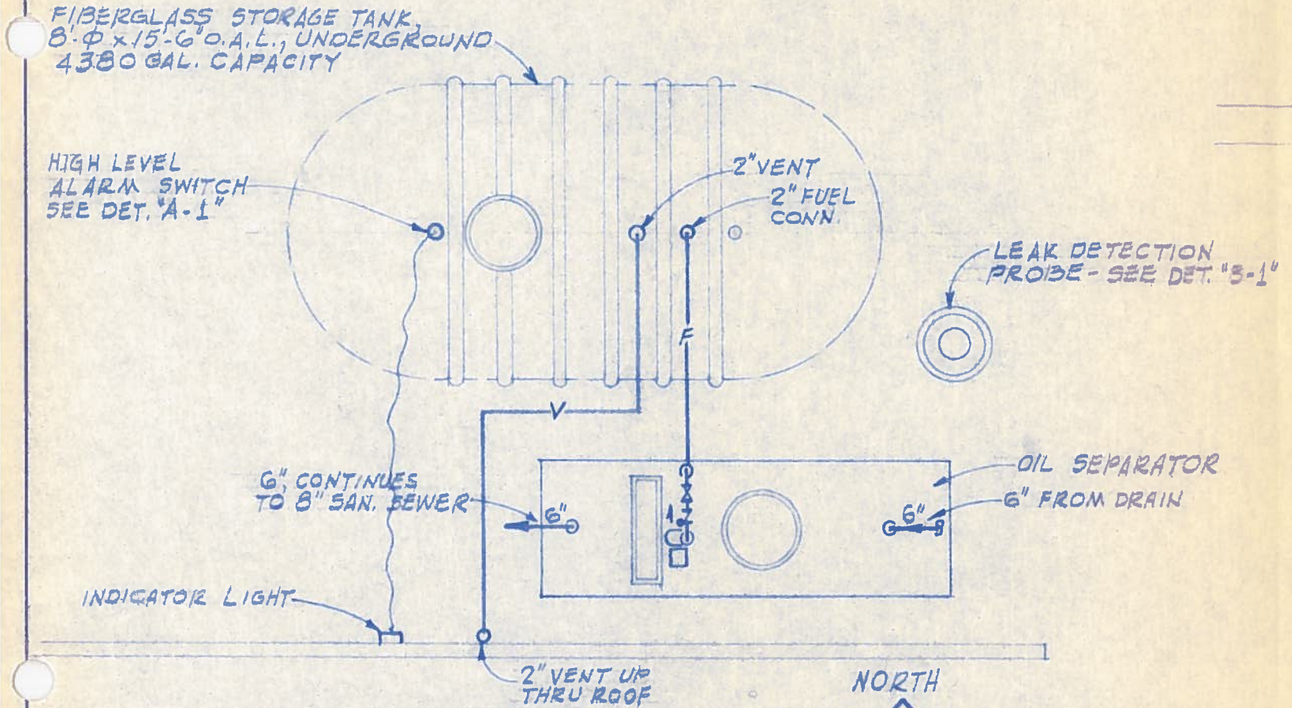
FIGURE D-8

REVISION	C.L.C.	9/9/83
SCALE	AS SHOWN	
DRAWN	K. MOYER	
APPROVED	J. W. McMahon	9/27/82
APPROVED	Fred Meyer	9/27/82
R.F.F.O.	F.O.	

MDC — ST. LOUIS
HAZARDOUS WASTE
FUEL PIT NO. 3 "WASTE TANK"

APPROVED FOR CONSTRUCTION
BY
DATE

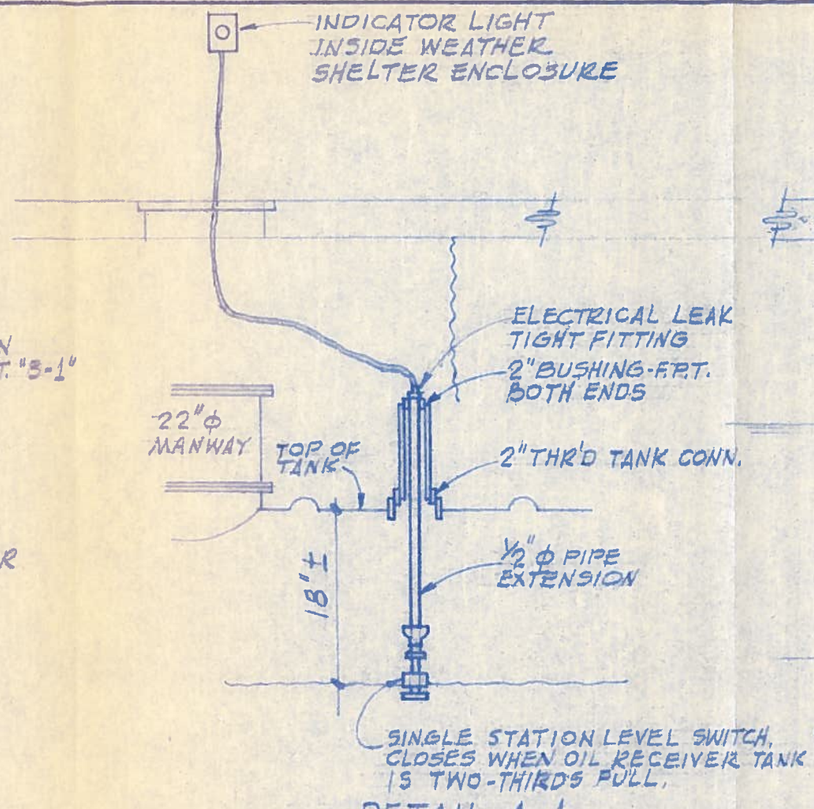
McDONNELL AIRCRAFT COMPANY
McDONNELL DOUGLAS CORPORATION
PLANT ENGINEERING
SKPE SHEET 1 OF 1



PLAN

UNDERGROUND STORAGE TANK IN WEATHER SHELTER ENCLOSURE

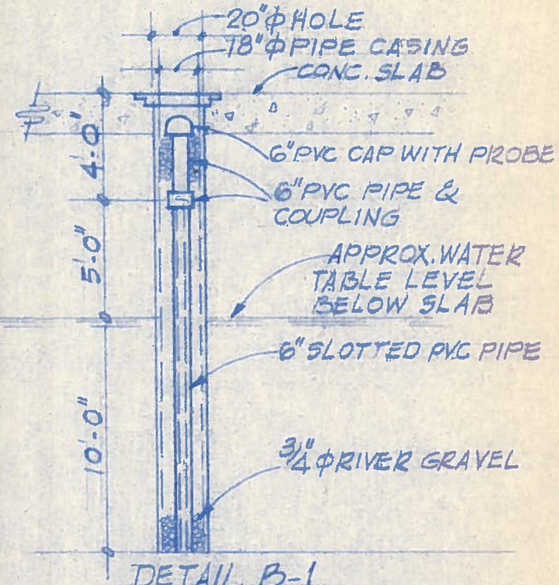
NO SCALE



DETAIL A-1

HIGH LEVEL ALARM SWITCH

NO SCALE



DETAIL B-1

LEAK DETECTION PROBE

NO SCALE

FRANK W. ARENS NUMBER E-7102 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

Frank W. Arens

FIGURE D-13

SCALE	NONE		MDC - ST. LOUIS HAZARDOUS WASTE STORAGE RAMP STATION 1&2 WASTE TANK
DRAWN	G.L.C.	9/9/83	
APPROVED	J.W. McMakin	9/9/83	
APPROVED	F.W. Arens	9/9/83	APPROVED FOR CONSTRUCTION BY DATE
R.F.F.O.	F.O.		

MCDONNELL AIRCRAFT COMPANY
MCDONNELL DOUGLAS CORPORATION
PLANT ENGINEERING
SKPE SHEET 1 OF 1

D-1a(4) Removal of Liquids from Collection System

Each of the separate containerized storage areas in Figures D-1 and D-2 have separate sump areas with the floors sloped toward the sump to collect any leaks or spills. Accumulations are removed from the sumps as soon as an analysis is completed to determine whether they are either hazardous or acceptable for release. If an analysis indicates that a sump contains hazardous waste, the material is removed from the sump, drummed, labeled, and transferred to the appropriate container storage area. If it is not hazardous, then it is transferred to an industrial sewer. As an added precaution, all containers are placed on wooden skids to prevent direct contact with leaking liquids. R

D-1b Containers Without Free Liquids

D-1b(1) Test for Free Liquids

Containers that must have no free liquids are opened and visually inspected. If any free liquid is found, it is transferred to another container and labeled. An inert liquid-absorbing medium is then added to the container of solids to absorb the final traces of free liquid. The container is then closed and stored in the storage areas described in D-1a. R

D-1b(2) Description of Containers

See section D-1a.

D-1b(3) Container Management Practices

See section D-1a.

D-1b(4) Container Storage Area Drainage

See section D-1a.

R

D-2 Tanks [40 CFR 122.25(b)(2), 10 CSR 25-7.050(4)(A) and (B)]

D-2a Description of Tanks

Two 10,000-gallon capacity, vertical, above-ground tanks provide 20,000-gallon storage for waste sodium hydroxide solution from chemical milling of aluminum. These two tanks are designated as H-19 and H-20. This waste alkaline solution has a specific gravity of 1.3. Tanks and piping are constructed of carbon steel (Figure D-4). Each tank is structurally supported on a bed of crushed limestone. The limestone is held in place by the 3-inch-thick asphalt spill pad that surrounds these tanks. This asphalt pad is surrounded by a 9-inch-high asphalt curb. The area inside the curb is drained to our industrial waste water pretreatment plant. Each tank is equipped with a top and side manway, a vent/overflow, and a liquid level indicator. The inlet to these tanks is directly connected to the process tanks that generate this waste. The outlet of these tanks is piped directly to a pump that is used for loading disposal vehicles. These tanks are protected from disposal vehicle damage, by the strategic placing of 4-inch-diameter concrete-filled pipe guards on the traffic lane sides of this area.

Five 500-gallon capacity, above-ground tanks provide 2,500-gallon maximum storage for waste nitric and hydrofluoric acid solution from chemical milling of titanium. These five tanks are designated as H-12, H-13, H-14, H-15, and H-16. This waste acid solution has a specific gravity of 1.3. All five tanks are open top, vertical, self-supporting, flat bottom, cylindrical, one piece molded black polyethylene plastic. The tanks are structurally supported on a wooden platform. The tank outlets are interconnected with schedule 80 CPVC piping and valves. The tanks are covered with hinged tops to prevent precipitation from entering. The area under

D-2a (Continued)

the tanks and platform is sealed with a 3-inch-thick asphalt pad. This pad is surrounded by a 6-inch-high asphalt curb. Inside the curb area is a 4-inch depth of crushed limestone and a drain to our industrial waste water pretreatment plant (Figure D-5). The tank overflows are interconnected to allow an overfilled tank to flow into the remainder of the tanks. The inlet to these tanks is directly connected to the process tanks that generate this waste. The outlet of each tank connects to a common manifold drain line that terminates within the curb area. This manifold system is used for emptying the tanks. R

Six 750-gallon capacity, above-ground tanks provide 4,500-gallon maximum storage for waste nitric and hydrofluoric acid solution from chemical milling of titanium. These six tanks are designated as H-1, H-2, H-3, H-4, H-5, and H-6. This waste acid solution has a specific gravity of 1.3. All six tanks are open top, vertical, self-supporting, flat bottom, cylindrical, one piece molded high density black polyethylene plastic. The tanks are structurally supported on a wooden platform. The tank outlets are interconnected with schedule 80 CPVC piping and valves. The tanks are closed with cap type covers to prevent precipitation from entering. The area under the tanks and platform is sealed with a 3-inch-thick asphalt pad. This pad is surrounded by a 6-inch-high asphalt curb. Inside the curb area is a 4-inch depth of crushed limestone and a drain to the previously mentioned industrial waste water pretreatment plant (Figure D-6). Any overflow from these tanks will be handled by the above-described curb and drain system. The inlet to these tanks is directly connected to the progress tank that generates this waste. The outlet of each tank connects to a common manifold drain line that terminates within the curb area. This manifold is used for emptying the tanks.

D-2a (Continued)

When waste acid is transferred to the 500-gallon and 750-gallon polyethylene tanks, one pipefitter pumps the acid and another pipefitter checks the tank to be sure that it is empty before the transfer starts and observes it to ensure that it does not overflow. If overfilling should occur, and the spill enters the industrial sewer, then the operator at the Industrial Waste Water Pretreatment Plant is notified and has 45 minutes to prepare before the spill arrives. If a spill is unobserved, then the automatic pH sensing system will sound an alarm in the Bldg. 5 Power House, which is manned 24 hours per day, 365 days per year, and the supervisor will call the Pretreatment Plant operator. R

The waste acid in these tanks is neutralized with lime and then processed through the Industrial Waste Water Pretreatment Plant, which ultimately discharges to the Metropolitan Sewer District POTW in St. Louis County. The acid in these tanks is processed whenever there is sufficient quantity to make it economically feasible to process a batch (approximately 500 gallons).

D-2a (Continued)

One 3,380-gallon capacity, horizontal, below grade tank provides storage for waste turbine engine (jet aircraft) and hydraulic system spillage. This tank is designated as "Hush House Waste Tank". This waste hydrocarbon mixture has a specific gravity of 0.8. The tank is constructed of polyester resins reinforced with glass fibers and designed for storing hydrocarbons. The tank is strapped to a concrete weight and completely surrounded with pea gravel. A concrete slab covers this tank as well as the entire area where the tank is located (Figure D-7). The tank is equipped with a liquid level sensing system that indicates when the tank is approximately 80% full. Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well adjacent to this tank. R R

One 2,000-gallon capacity, vertical, below grade tank provides storage for turbine engine (jet aircraft) fuel that is spilled during fueling or defueling operations. This tank is designated as "Fuel Pit No. 3 Waste Tank". This waste turbine engine fuel has a specific gravity of 0.8. The tank is constructed of 1/4" thick carbon steel with an ASME-approved coal tar apoxy outer coating typical for underground tanks. The tank has a nominal capacity of 3,000 gallons but the bottom one-third (1,000 gallon volume) is filled with concrete. A concrete slab covers this tank as well as the entire area where the tank is located (Figure D-8). The tank is equipped with a liquid level indicating system that sounds an alarm when the tank is approximately 75% full. Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well adjacent to this tank.

D-2a (Continued)

One 2,000-gallon capacity, vertical, below grade tank provides storage for turbine engine (jet aircraft) fuel that is spilled during fueling or defueling operations. This tank is designated as "Fuel Pit No. 4 Waste Tank". This waste turbine engine fuel has a specific gravity of 0.8. The tank is constructed of 1/4" thick carbon steel with an ASME-approved coal tar epoxy outer coating typical for underground tanks. A concrete slab covers this tank as well as the entire area where the tank is located (Figure D-13). The tank is equipped with a liquid level indicating system that sounds an alarm when the tank is approximately 75% full. Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well adjacent to this tank. R

D-2a (Continued)

One 2,000-gallon capacity, horizontal, below grade tank provides storage for waste turbine engine (jet aircraft) and hydraulic system spillage. This tank is designated as "F-18 Silencer Waste Tank". This waste hydrocarbon mixture has a specific gravity of 0.8. The tank is an Owens Corning Fiberglass Model 2000 D-2, fiberglass storage tank for underground service. It has a nominal capacity of 2,000 gallons and an actual capacity of 2,130 gallons. A concrete slab covers this tank as well as the general area where the tank is located (Figure D-9). The tank is equipped with a liquid level sensing system that flashes an alarm when the tank is approximately 75% full. Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well adjacent to this tank.

One 5,000-gallon capacity, horizontal, below grade tank provides storage for jet aircraft fuels that are leaked or spilled during the testing of aircraft fuel systems. This tank is designated as "Bldg. 28 Waste Tank". This waste aircraft fuel has a specific gravity of 0.8. The tank is constructed of 1/4-inch-thick carbon steel with three 4-inch-wide steel channel braces welded to the external surface of each end. A concrete slab covers this tank as well as the general area where the tank is located (Figure D-10). Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well adjacent to this tank. This tank collects only spillage that occurs during testing fuel systems. In order to prevent R overfilling, the tank level is checked whenever a spill occurs. In addition, routine maintenance at this building provides tank level checking once per month. These two independent measures provide a system to prevent overfilling. The leak detection system associated with this tank fulfills the

D-2a (Continued)

inspection requirements. This detection system is monitored each work day during our facility inspection. R

One 1,000-gallon capacity, horizontal, below grade tank provides storage for oil that has been separated from the condensate of an oil-lubricated, steam-operated air compressor. This tank is designated as "Bldg. 6 Waste Oil Tank". The waste hydrocarbon mixture has a specific gravity of 0.9. This tank is an Air Therm Manufacturing Company Model 10 1/2 UG. It is constructed of 10 gauge carbon steel with an outer coating of black asphaltum. The tank is strapped to the concrete pad on which it rests. A concrete slab covers the area above this tank (Figure D-11). Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well adjacent to this tank. This tank collects oil that has been removed by an oil interceptor. This interceptor operates by gravity, with the oil being diverted into the waste oil tank and the waste water flowing into a sanitary sewer. The tank level is routinely checked by the area Maintenance Department. The level is also randomly checked by the inspector during the leak detection system monitoring that takes place each work day. R

One 120,000-gallon capacity, inground tank provides storage for industrial waste water treatment sludge prior to dewatering. This tank is designated as "Bldg. 14 Sludge Holding Tank". This waste has a specific gravity of approximately 1.1. This tank is an open top tank, constructed of reinforced concrete, a minimum of 12 inches in thickness. This tank was previously used as a digestor for anaerobic decomposition of sanitary sewage sludge (Figure D-12). This inground tank is equipped with an overflow drain which leads to the influent of our waste water pretreatment plant.

D-2a (Continued)

The sludge is dewatered with a centrifuge and is disposed of at a TSDF that has been approved by the EPA and the state.

One 4,380-gallon capacity, horizontal, below grade tank provides storage for jet aircraft fuels that are leaked or spilled during the repair of aircraft fuel systems. This tank is designated as "Ramp Station 1 and 2 Waste Tank". This waste aircraft fuel has a specific gravity of 0.8. The tank is manufactured by the "Lifetime Fiberglass Tank Company". It is constructed of polyester resins reinforced with glass fibers and is designed for storage of gasoline, aviation fuel, and oil. It has a nominal capacity of 4,000 gallons and an actual capacity of 4,380 gallons. A concrete slab covers this tank as well as the general area where the tank is located (Figure D-14). The tank is equipped with a liquid level sensing system that lights a visual alarm when the tank is approximately 80% full. Leaks are monitored by a hydrocarbon sensing system that is installed in a monitoring well adjacent to this tank. R

D-2b Tank Corrosion and Erosion

The two 10,000-gallon waste sodium hydroxide storage tanks are constructed of carbon steel (Figure D-4). Since this waste is stored at ambient temperatures of 0°F to 100°F, the corrosion rate is less than would exist in dissolved air in water supply storage tanks. These tanks have been in service for a minimum of fifteen years with no signs of corrosion.

The five 500-gallon waste nitric and hydrofluoric acid storage tanks are constructed of one piece molded black polyethylene plastic (Figure D-5). These tanks are considered completely inert to their contents.

Tank Description	Disposal Method	Regulations Applicable	Category	R
Two 10,000-gallon capacity tanks designated as H-19 and H-20	Recycle	DNR	RCRA Exempt	
Five 500-gallon capacity tanks designated as H-12, H-13, H-14, H-15, H-16	TSDF	DNR and EPA	--	
Six 750-gallon capacity tanks designated as H-1, H-2, H-3, H-4, H-5, H-6	TSDF	DNR and EPA	--	
One 3,380-gallon capacity tank designated as "Hush House Waste Tank"	Recycle	DNR	RCRA Exempt	
Two 2,000-gallon capacity tanks designated as "Fuel Pit No. 3 Waste Tank" and "Fuel Pit No. 4 Waste Tank"	Recycle	DNR	RCRA Exempt	
One 2,000-gallon capacity tank designated as "F-18 Silencer Waste Tank"	Recycle	DNR	RCRA Exempt	
One 5,000-gallon capacity tank designated as "Bldg. 28 Waste Tank"	Recycle	DNR	RCRA Exempt	
One 1,000-gallon capacity tank designated as "Bldg. 6 Waste Oil Tank"	Recycle	DNR	RCRA Exempt	
One 120,000-gallon capacity tank designated as "Bldg. 14 Sludge Holding Tank"	TSDF	DNR and EPA	--	
One 4,380-gallon capacity tank designated as "Ramp Station 1 and 2 Waste Tank"	Recycle	DNR	RCRA Exempt	

DATE: 09 SEP 83
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R

TANK DESCRIPTION	STANDARD DESIGN	TANK DETAILS: DIMENSIONS	TANK DETAILS: MAXIMUM CAPACITY	TANK DETAILS: SHELL THICKNESS	DESCRIPTION OF FEED SYSTEMS, SAFETY CUTOFFS, BYPASS SYSTEMS, OVERFLOW CONTROL, AND PRESSURE CONTROL
Five 500-gallon capacity, open-top, vertical, self-supporting flat bottom, cylindrical above-ground tanks. Designated as Tanks H-12, H-13, H-14, H-15, and H-16.	U.S. Plastic Corporation	48" dia. x 71" high	555 gallons	1/4"	Waste solution comes from one of two process tanks. Each tank contains 450 gallons. When the solution in either of these two tanks is declared waste, the on-site pipefitter is notified to transfer this solution into the waste storage tanks. This transfer is accomplished with a continuous recirculating process tank pump via valving and schedule 80 CPVC piping. In the event of emergency, the valves may be closed and/or the pump stopped. These storage tanks are covered with loose-fitting (not sealed) covers. The process tanks and the storage tanks are open to the atmosphere and operate at atmosphere pressure; therefore, no pressure controls exist. Any overflow that would occur would be contained by a six-inch-high asphalt curb and diverted into our own Industrial Waste Water Pretreatment Plant. The tanks are interconnected to allow bypassing from one tank to another as they are individually filled.

In reference to the suitability of using polyethylene containers for holding mixtures of nitric and hydrofluoric acids, we cite the following:

Code of Federal Regulations, Title 49, Subchapter C - Hazardous Materials Regulation, Part 173.299.

"173.299 Etching acid liquid, n.o.s. (a) Etching acid liquid shall be a mixture of nitric acid, hydrofluoric acid, having nitric acid in concentrations of not more than 60 percent by weight, hydrofluoric acid in concentrations of not less than 4 percent by weight and water not less than 24 percent by weight, and may contain acetic acid. These mixtures must be packed in specification containers as follows: (1) Specification 12A (178.210 of this subchapter). Fiberboard boxes with Specification 2E (178.24a of this chapter) inside polyethylene bottles have a minimum wall thickness of 0.030 inch and screw-cap closures. Net weight per bottle may not be over 10 pounds each. The net weight per package may not be more than 40 pounds. (2) Specification 6D or 37M (non-reusable) (178.102, 178.134 of this subchapter). Cylindrical steel overpack with inside Specification 2S or 2SL (178.35 or 178.35a of this subchapter) polyethylene container not over 55 gallons capacity. Specification 37M overpack of over 30 gallon capacity must be constructed of at least 20 gauge steel throughout."

R

TANK DESCRIPTION	STANDARD DESIGN	TANK DETAILS: DIMENSIONS	TANK DETAILS: MAXIMUM CAPACITY	TANK DETAILS: SHELL THICKNESS	DESCRIPTION OF FEED SYSTEMS, SAFETY CUTOFFS, BYPASS SYSTEMS, OVERFLOW CONTROL, AND PRESSURE CONTROL
Six 750-gallon capacity, open-top, vertical, self-supporting, flat bottom, cylindrical above-ground tanks. Designated as Tanks H-1, H-2, H-3, H-4, H-5, and H-6.	Chem-Tainer Industries, Division of County Plastics Corporation	55" dia. x 72" high	740 gallons	3/8"	Waste solution comes from one 4,000-gallon process tank. When the solution in this tank is declared waste, the on-site pipefitter is notified to transfer this solution into the waste storage tanks. This transfer is accomplished with a continuous recirculating process tank pump via valving and schedule 80 CPVC piping. In the event of emergency, the valves may be closed and/or the pump stopped. These storage tanks are covered with loose-fitting (not sealed) covers. The process tank and the storage tanks are open to the atmosphere and operate at atmosphere pressure; therefore, no pressure control exists. Any overflow that would occur would be contained by a six-inch-high asphalt curb and diverted into our own Industrial Waste Water Pretreatment Plant. The tanks are interconnected to allow bypassing from one tank to another as they are individually filled.

In reference to the suitability of using polyethylene containers for holding mixtures of nitric and hydrofluoric acids, we cite the following:

Code of Federal Regulations, Title 49, Subchapter C - Hazardous Materials Regulation, Part 173.299.

"173.299 Etching acid liquid, n.o.s. (a) Etching acid liquid shall be a mixture of nitric acid, hydrofluoric acid, having nitric acid in concentrations of not more than 60 percent by weight, hydrofluoric acid in concentrations of not less than 4 percent by weight and water not less than 24 percent by weight, and may contain acetic acid. These mixtures must be packed in specification containers as follows: (1) Specification 12A (178.210 of this subchapter). Fiberboard boxes with Specification 2E (178.24a of this subchapter) inside polyethylene boxes have a minimum wall thickness of 0.030 inch and screw-cap closures. Net weight per bottle may not be over 10 pounds each. The net weight per package may not be more than 40 pounds. (2) Specification 6D or 37M (non-reusable)(178.102, 178.134 of this subchapter). Cylindrical steel overpack with inside Specification 2S or 2SL (178.35 or 178.35a of this subchapter) polyethylene container not over 55 gallons capacity. Specification 37M overpack of over 30 gallon capacity must be constructed of at least 20 gauge steel throughout."

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R

TANK DESCRIPTION	STANDARD DESIGN	TANK DETAILS: DIMENSIONS	TANK DETAILS: MAXIMUM CAPACITY	TANK DETAILS: SHELL THICKNESS	DESCRIPTION OF FEED SYSTEMS, SAFETY CUTOFFS, BYPASS SYSTEMS, OVERFLOW CONTROL, AND PRESSURE CONTROL
One 120,000-gallon capacity, in-ground, open top tanks. Designated as "Bldg. 14 Sludge Holding Tank".	1. Originally designed as sewage sludge digestor in January 1941 by "Russel and Axon" Consulting Engineers. 2. Modified for Industrial Waste Sludge Holding Tank by McDonnell Aircraft Co. during 1968.	33' dia. x 21' high. Note: Overflow is at 19' depth as is effective fill level.	121,555 gallons	Walls are 12" minimum thickness reinforced concrete. Bottom is 6" thick reinforced concrete.	Sludge collects in settling tanks and is moved by hydraulic pressure to a manually operated pump. The Waste Water Pretreatment Plant operator controls this pump. Ridged piping conducts the settled sludge from the pump to the sludge-holding tank. In the event of an emergency, valves may be closed and/or the pump stopped. The holding tank is open to the atmosphere and operates at atmospheric pressure; therefore, no pressure control exists. Any overflow that would occur would be discharged into the influent line of our Pretreatment Plant and thus be collected in the settling tanks (a closed loop system). The overflow outlet is located two feet below the top of the sludge-holding tank.

In reference to the suitability of using reinforced concrete for holding sludge with the pH range of 7.0 to 8.0, we attest to the fact that we began holding this type of sludge in this tank in 1969. Since then, at approximately five-year intervals, we have emptied this tank. When the tank was empty, it was inspected, and no observable change from its 1969 condition was detected.

ISSOURI DEPARTMENT OF NATURAL RESOURCES
Waste Management Program
P.O. Box 1368
efferson City, Missouri 65102

OFFICE USE ONLY
FACILITY I.D. NO. (D)

DATE: 09 SEP 83
REVISION NO.: 1

Confidentiality Requested / /
Confidentiality Granted/Denied / /
Date Public Notice / /

APPLICATION FORM

HAZARDOUS WASTE MANAGEMENT FACILITY

1. Name of Operator McDonnell Douglas Corporation
Address P.O. Box 516 Phone (314) 232-3319
City St. Louis State Missouri Zip Code 63166
Ownership Status ☐ Federal ☐ State ☑ Private ☐ Public ☐ Other

Name of Land Owner McDonnell Douglas Corporation
Address P.O. Box 516 Phone (314) 232-3319
City St. Louis State Missouri Zip Code 63166

Name of Owner (other) Same as above
Address Phone
City State Zip Code

2. Name of Facility McDonnell Douglas-St. Louis, Tract I
Location of Facility: Nearest City of Town Hazelwood County St. Louis
NE 1/4 SW 1/4 NW 1/4, Section 5
Township 46 . Range 6 . No. of Acres 201
Latitude 38° 45' North Longitude 90° 22' South

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(D)

Type of Hazardous Waste Management Facility (Check Appropriate Box or Boxes)

Storage

- [x] Container or Tanks (Attach Form SCT)
- [ ] Surface Impoundment (Attach Form SSI)
- [ ] Waste Pile (Attach Form SWP)

Treatment

- [ ] Tanks (Attach Form TT)
- [ ] Surface Impoundment (Attach Form TSI)
- [ ] Incinerator (Attach Form TI)
- [ ] Landfarm (Attach Form TLF)

Disposal

- [ ] Landfill (Attach Form DL)
- [ ] Surface Impoundment (Attach Form DSI)
- [ ] Waste Pile (Attach Form DWP)

4. Is this facility to service more than one generator? [ ] YES [x] NO
More than one type of waste? [x] YES [ ] NO

All applications for a hazardous waste management facility must include the following information:

	As Required By
Engineering Plans	10 CSR 25-7.011(2)(C) 1.H., I., and 2.
Compliance with General Facility Standards	10 CSR 25-7.011(3)
Preparedness and Prevention Plan	10 CSR 25-7.011(4)
Contingency Plan and Emergency Procedures Plan	10 CSR 25-7.011(5)
Compliance with the Manifest, Recordkeeping and Reporting	10 CSR 25-7.011(6)
Operations Manual	10 CSR 25-7.011(7)
Compliance with the Financial Requirements	10 CSR 25-7.011(8)
Closure and Post Closure Plan	10 CSR 25-7.011(9)
Monitoring Plan	10 CSR 25-7.011(10)
Filing Fee (Not to exceed $500 for the entire facility unless a disposal facility, then not to exceed $1,000)	10 CSR 25-7.011(2)(C)

R

List all types of hazardous wastes to be managed at the facility.

NOTE: This list represents the estimated hazardous wastes to be shipped for 1983.

	Listed Hazardous Waste or Process Description (1)	EPA OR MO DNR No.	CODE (3)	Estimated Quantity (4) Per Month	Units (5) (Gals., lbs., tn., etc.)
1	Waste Acid Solution	D002	C	1.59	tn.
	MO Waste ID No. 001	D007	E		
2	Waste Acid Solution	D002	C	8.87	tn.
	MO Waste ID No. 003	D007	E		
3	Waste Alkaline Solution	D007	E	1.78	tn.
	MO Waste ID No. 005	---	---		
4	Waste Acid Solution	D002	C	0.02	tn.
	MO Waste ID No. 007	D007	E		
5	Waste Acid Solution	D002	C	1.53	tn.
	MO Waste ID No. 008	D003	R		
6	Waste Acid and Chlorinated Solvent	D002	C	0.19	tn.
	MO Waste ID No. 009	F002	T		
7	Waste Acid Solution	D002	C	2.59	tn.
	MO Waste ID No. 010	D007	E		
8	Waste Acid Solution	D002	C	0.15	tn.
	MO Waste ID No. 012	D007	E		
9	Waste Acid Solution	D002	C	0.05	tn.
	MO Waste ID No. 013	D007	E		
10	Waste Acid Solution	D002	C	0.02	tn.
	MO Waste ID No. 014	D007	E		
11	Waste Acid Solution	D002	C	0.11	tn.
	MO Waste ID No. 015	D007	E		
12	Waste Cadmium Stripping Solution	D006	E	0.02	tn.
	MO Waste ID No. 017	---	---		
13	Waste Acid Solution	D002	C	0.06	tn.
	MO Waste ID No. 018	D007	E		
14	Waste Acid Solution	D002	C	0.05	tn.
	MO Waste ID No. 020	D007	E		
15	Waste Acid Solution	D002	C	0.05	tn.
	MO Waste ID No. 021	---	---		
16	Waste Acid Solution	D002	C	0.03	tn.
	MO Waste ID No. 022	D007	E		
17	Waste Acid Solution	D002	C	0.12	tn.
	MO Waste ID No. 023	---	---		

Continued
(Continue numbering with 35)

	Listed Hazardous Waste or Process Description (1)	EPA or MO DNR No.	CODE (3)	Estimated Quantity (4) Per Month	Units (5) (Gals., lbs., tn., etc.)
18	Waste Alkaline Solution	D002	C	0.28	tn.
	MO Waste ID No. 024	D007	E		
19	Waste Alkaline Solution	D002	C	1.35	tn.
	MO Waste ID No. 025	D006	E		
20	Waste Alkaline Solution	D003	R	0.07	tn.
	MO Waste ID No. 026	D006	E		
21	Waste Acid Solution	D002	C	0.09	tn.
	MO Waste ID No. 027	D007	E		
22	Waste Potassium Dichromate Solution	D007	E	1.17	tn.
	MO Waste ID No. 028	---	---		
23	Waste Alkaline Solution	D007	E	1.73	tn.
	MO Waste ID No. 029	---	---		
24	Waste Alkaline Solution	D007	E	1.54	tn.
	MO Waste ID No. 030	---	---		
25	Waste Ferric Chloride Solution	D002	C	0.88	tn.
	MO Waste ID No. 031	D007	E		
26	Waste Alkaline Solution	D007	E	2.26	tn.
	MO Waste ID No. 033	---			
27	Waste Acid Solution	D002	C	0.07	tn.
	MO Waste ID No. 034	---	---		
28	Pretreatment Plant Sludge	F006	T	285.73	tn.
	MO Waste ID No. 036	F019	---		
29	Water Emulsified Cutting Oil	Listed	---	74.44	tn.
	MO Waste ID No. 037	Waste	---		
30	Solid Hazardous Waste	D008	E	23.61	tn.
	MO Waste ID No. 038	---	---		
31	Waste Paint Sludge	D007	E	7.11	tn.
	MO Waste ID No. 040	---	---		
32	Waste Chlorinated Solvents	F001	T	10.94	tn.
	MO Waste ID No. 041	F002	T		
33	Waste Solvents	F003	I	12.33	tn.
	MO Waste ID No. 043				
34	Waste Metal Cutting Coolant	D007	E	0.88	tn.
	MO Waste ID No. 045	---	---		

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Continued
(Continue numbering with 35)

	Listed Hazardous Waste or Process Description (1)	EPA or MO DNR No.	CODE (3)	Estimated Quantity (4) Per Month	Units (5) (Gals., lbs., tn., etc.)
35	Waste Paint Stripper	D008	E	0.44	tn.
	MO Waste ID No. 046	F002	T		
36	Waste Scale Remover	D002	C	0.30	tn.
	MO Waste ID No. 048	---	---		
37	Empty Containers	MKT3	---	0.81	tn.
	MO Waste ID No. 050	---	---		
38	Waste Sodium Bicarbonate Solution	D004	E	0.23	tn.
	MO Waste ID No. 052	---	---		
39	Sodium Hydroxide Solids	D002	C	0.27	tn.
	MO Waste ID No. 057	---	---		
40	Waste Synthetic Fuel	Listed	---	0.51	
	MO Waste ID No. 059	Waste	---		
41	Waste Sodium Hydroxide Solution	D002	C	4.77	tn.
	MO Waste ID No. 06T	---	---		
42	Waste Plating Sludge	D002	C	0.07	tn.
	MO Waste ID No. 067	D006	E		
43	Waste Plating Sludge	D006	E	0.34	tn.
	MO Waste ID No. 069	---	---		
44	Waste Mold Material	D002	C	2.08	tn.
	MO Waste ID No. 075	D004	E		
45	Waste Plating Sludge	D003	R	2.15	tn.
	MO Waste ID No. 078	D006	E		
46	Waste Plating Sludge	D002	C	0.55	tn.
	MO Waste ID No. 079	D006	E		
47	Waste Pickling Solution	D002	C	1.42	tn.
	MO Waste ID No. 082	D006	E		
48	Waste Scale Conditioner Solution	D002	C	0.34	tn.
	MO Waste ID No. 088	D003	R		
49	Waste Chromic Acid Sludge	D002	C	0.02	tn.
	MO Waste ID No. 089	D006	E		
50	Waste Miscellaneous Acid Sludges	D002	C	1.62	tn.
	MO Waste ID No. 09T	D007	E		
51	Waste Miscellaneous Alkaline Sludges	D002	C	1.86	
	MO Waste ID No. 092	D003	R		

R

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STORAGE FACILITY

1. Did the department conduct a preliminary site investigation? ☐ Yes ☒ No

2. Any application for a hazardous waste storage facility must include the following information:

	As Required By
A. General Rules Applicable to all Facilities	10 CSR 25 7.011
B. Storage in Containers and/or	10 CSR 25 7.050(3)
C. Storage in Tanks	10 CSR 25 7.050(4)

3. List the type(s) of storage to be utilized at the facility.

Above Ground Tanks		Containers		Underground Tanks	
Number	Capacity	Number	Capacity	Number	Capacity
T3	27,000 gal.	1	1,705 gal.	7	19,760 gal.
* 1	120,000 gal.	1	35,915 gal.	-	--
--	--	1	30,300 gal.	-	--
--	--	-	--	-	--

R

* In ground

4. Engineer's Certification

This is to certify that this application has been prepared to comply with the Missouri ~~Missouri Hazardous Waste Management~~ Law and all applicable standards, rules, and regulations for hazardous waste storage facilities, specifically 10 CSR 25 7.050. It is my understanding that this facility has been designed to provide adequate protection of the health of humans, and other living organisms.

Registered Professional Engineer Submitting Plans

Name Earl M. Myers Phone (314) 232-2379

Name of Consulting Firm Plant Engineering Design Department

Address P.O. Box 516

City St. Louis State MO Zip Code 63166

Signature Earl M Myers Registration No. E-8041 Date 1-14-83

5. Applicant's Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Operator Signature Robert D Singleton Date 17 JAN. 1983

~~Land Owner~~ Signature McDonnell Douglas Corporation Date

D. GENERAL (Continued)

3. REGULATIONS - DRUM STORAGE FACILITY

3.1 All waste must be in closed DOT specification shipping containers and all containers of hazardous waste shall be inspected, labeled, and sampled by Dept. 191C, Environmental Pollution Control, before they are removed from the generating area and taken to the hazardous waste storage facility.

3.2 Containers of hazardous waste must be taken to the storage facility only from 9:00 a.m. to 11:00 a.m. and 1:00 p.m. to 3:00 p.m. The operator will be on duty there to receive the material during these times.

3.3 When drums of hazardous waste are being handled with a fork lift, the drums must be either on a skid or the fork lift must be equipped with a special drum lift attachment to prevent damaging the drums. DO NOT LIFT A DRUM WITH JUST THE FORKS ALONE.

3.4 Drums shall be positioned in rows, two drums wide with a minimum of eighteen inches of space between rows. The aisle between double rows of drums must always be maintained to allow for an inspection for leaky containers.

3.5 Five-gallon carboys must be packed in a cardboard carton, taped closed, and stacked on a skid.

3.6 The operator shall make an inspection of the facility each working day to check for leaky or damaged containers, and for an accumulation of material in the sump. Any spill or leak must be corrected immediately. The material from a leaky container shall be transferred to a DOT specification shipping container. If the sump has an accumulation in it, locate and stop the source of the accumulation. Collect a sample and have a laboratory analyze it to identify it. Then transfer the material to an appropriate DOT shipping container.

3.7 In the event of a pollution emergency, the first person discovering the emergency shall notify the Fire Department at inplant telephone number 22611 and the Guard Headquarters at inplant telephone number 22821.

3.8 The operator shall immediately report any explosions, fires, spills, unusual damage from weather conditions, and any discharges or releases of hazardous waste to Environmental Pollution Control (inplant telephone number 23319), who will be responsible for notifying the necessary regulatory agencies.

F-2a (Continued)

adversely affect the environment or threaten human health (Figure F-1).

F-2a(1) Types of Problems

Figure F-1 is the daily log for inspecting monitoring equipment, security devices, operating and structural equipment in the contained storage areas and the tank storage areas. R

F-2a(2) Frequency of Inspection

All storage areas at this facility, except for Bldg. 10 Reactive (explosive), are inspected on each workday. The reactive (explosive) storage area is inspected weekly. Our Fire Services Department, in conjunction with the Plant Engineering Fire Protection Engineering and Insurance section, conducts periodic inspections and performs Preventative Maintenance (P.M.) on all fire protection equipment, alarm systems, etc., in accordance with the inspection requirements of our insurance carrier. These inspections, etc. are performed using inspection forms (Figures F-3 and F-4). R R

F-2b Specific Process Inspection Requirements

F-2b(1) Container Inspection

Inspections of the container storage area are conducted per the inspection schedule provided in Figure F-1. Results of each inspection are recorded on this inspection log sheet. Information required on the log sheet includes the inspector's signature, name, and date of inspection, area of inspection, and discrepancies. The inspector is required to check the Container Storage Area.

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DAILY INSPECTION LOG - TRACT I MDC ST. LOUIS

HAZARDOUS WASTE STORAGE FACILITIES - UNDERGROUND TANKS

MONTH

19 _ _

	BLDG 6 OIL TANK	BLDG 28 FUEL TANK	FUEL PIT #3 TANK	FUEL PIT #4 TANK	F-18 SILENCER TANK	HUSH HOUSE TANK	RAMP STATION 1 & 2 TANK	DISCREPANCIES	INSPECTOR'S SIGNATURE
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
15									
17									
18									
19									
20									
21									
22									
23									
24									
25									
25									
27									
28									
29									
30									
31									

Figure F-1, Page F-5
1 of 4

* = INDICATES FACILITY INSPECTED - DISCREPANCY NOTED

NOTE: SEE THE OPERATING MANUAL, HAZARDOUS WASTE STORAGE FACILITY, TRACT I FOR SPECIFI INSPECTION INSTRUCTIONS PER 40 CFR 264.15 AND MO 10 CSR 25-7.011(3)(E).

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DAILY INSPECTION LOG - TRACT I MDC ST. LOUIS

HAZARDOUS WASTE STORAGE FACILITIES

MONTH

19 _ _

	BLDG 10 REACTIVE WASTE	BLDG 14 SLUDGE TANK	BLDG 27 DRUM AREAS	BLDG 52 TI ETCH TANKS	BLDG 52 ETCH TANKS	BLDG 52 AI ETCH TANKS	DISCREPANCIES	INSPECTOR'S SIGNATURE
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								

* = INDICATES FACILITY INSPECTED - DISCREPANCY NOTED

NOTE: SEE THE OPERATING MANUAL, HAZARDOUS WASTE STORAGE FACILITY, TRACT I FOR SPECIFIC INSPECTION INSTRUCTIONS PER 40 CFR 264.15 AND MO 10 CSR 25-7.011(3)(E).

FIXED FIRE PROTECTION INSPECTION RECORD

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TRACT I NORTH

WEEK ENDING _____ 19____

ZONE	NO.	SPRINKLER CONTROL VALVES	CHECKED BY	CONDITION
		BLDG 22		
	2423	NORTH CENTER OF BUILDING		
		BLDG 25		
	2414	WEST CENTER OF BUILDING		
		BLDG 27		
	2121	COL 5-MM DRY PIPE		
	2122	COL 5-MM		
	2123	COL 5-MM		
	2124	COL 5-MM		
	2125	COL 5-MM		
	2126	COL 13-MM		
	2127	COL 13-MM		
	2128	COL 17-MM		
	2131	COL 23-MM		
	2132	COL 23-MM		
	2133	COL 30-MM		
	2134	COL 30-MM		
	2135	COL 30-MM		
	2136	COL 30-MM		
	2137	COL 30-MM DRY PIPE		
	2141	COL 5-A		
	2142	COL 5-A		
	2143	COL 11-A		
	2144	COL 11-A		
	2145	COL 11-A DRY PIPE		
	2151	COL 17-A		
	2152	COL 17-A		
	2153	COL 21-A		
	2154	COL 21-A		
	2164	COL 3-P BALC. PREACTION		
	2165	COL 15-D BALC. PREACTION		
		BLDG 28		
	2431	SOUTHEAST CORNER DELUGE		
	2432	SOUTHEAST CORNER DELUGE		
	2433	SOUTHEAST CORNER WET		
		BLDG 29		
	2911	COL 4-K		
	2912	COL 1-G		
	2913	COL 1-F		
	2914	COL 1-E		
	2915	COL 1-C		
	2916	COL 1-B		
	2934	COL 11-G DELUGE WATER CURTAIN		
		BLDG 32		
	1	LEV 1 BOILER RM		
		BLDG 33		
	1	BASEMENT SPRINKLER RM		
	2	4" OS & Y LEV 1 PRE-ACTION SPRINKLER		
		BLDG 34		
	1	BLDG 33 BASEMENT SPRINKLER RM.		
		BLDG 39		
	2441A	SOUTHEAST CORNER		
	2441B	SOUTHEAST CORNER DRY PIPE		

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ANNUAL IN-SERVICE APPARATUS TEST

TRUCK NO. _____

RESIDUAL PRESSURE: _____

RATED CAPACITY: _____ @ 150 PSI

10 MINUTE RUN @ 150 PSI: GPM _____ RPM _____

5 MINUTE RUN @ 200 PSI: GPM _____ RPM _____

5 MINUTE RUN @ 250 PSI: GPM _____ RPM _____

CARBURETION: _____ IGNITION: _____

PUMP LEAKAGE: _____ CLUTCH SLIPPAGE: _____

VACUUM TEST: INCHES OF MERCURY: _____

TIME HELD: _____

REMARKS: _____

_____

_____

_____

_____

_____

_____

_____

Figure F-4
F-5
4 of 4

F-2b(1) (Continued)

Daily: Check for leaking containers; R

Check for deterioration of containers;

Check the sump for evidence of a spill;

Check and update the inventory of drums;

Check aisle space to be sure that aisles are not blocked;

Check to ensure that only empty drums are being stacked.

Weekly: Check integrity of containment curbs.

Explosives Storage Building

Weekly: Check perimeter fences and gates for integrity; R

Check doors for integrity of closure;

Check fire extinguishers for degree of charge;

Check storage containers for signs of damage;

Check alarm/surveillance system for functionality.

If the status of a particular item is unacceptable, this condition is brought to the attention of the specific area Maintenance Department by issuing a Maintenance Work Order Request that asks for immediate corrective action.

F-2b(2) Tank Inspection

Tank inspections are conducted per the inspection schedule provided in Figure F-1. Results of each inspection are recorded on this inspection log sheet.

One 120,000-gallon Inground Tank

Daily: Check level of waste in the tank; R

Check for evidence of a leak or spill around the tank.

F-2b(2) (Continued)

Weekly:	Check for cracks or deterioration of the concrete tank wall.	R
Every Five Years:	Drain and rinse the tank. Check entire inside tank wall and floor for cracks, spalling, and corrosion of the concrete; Check for corrosion of piping.	R

Two 10,000-gallon Above-ground Steel Tanks

Daily:	Check level of waste in the tanks; Check for evidence of a spill or overflow; Check external condition of tank.	R
Weekly:	Check integrity of containment curbs; Check the tanks for leaks or evidence of cracks or structural failure.	
Annually:	Drain and rinse the tanks. Inspect the interior of the tanks for evidence of cracks or structural failure.	R

Five 500-gallon Above-ground Polyethylene Tanks, Six 750-gallon Above-ground Polyethylene Tanks

Daily:	Check external condition of tanks; Check area around tanks for evidence of a spill or leak.	R
Weekly:	Check the integrity of the containment curbs.	
Monthly:	Check the condition of the interior of the tanks.	

The underground tanks, all of which contain hydrocarbons, are monitored by a hydrocarbon sensing system that is installed in monitoring wells located adjacent to these buried tanks. The wells will be sampled on an annual basis unless and until history dictates more frequent sampling would be advantageous.

F-2b(2) (Continued)

One 3,380-gallon Below-ground Tank - Hush House

One 2,000-gallon Below-ground Tank - Fuel Pit #3

One 2,000-gallon Below-ground Tank - Fuel Pit #4 R

One 5,000-gallon Below-ground Tank - Bldg. 28

One 1,000-gallon Below-ground Tank - Bldg. 6

One 2,000-gallon Below-ground Tank - F-18 Silencer

One 4,380-gallon Below-ground Tank - Ramp Station 1 and 2 R

Daily: Check the monitoring well control panel for an indication of a leak;

Check surface above the tank for signs of a leak.

F-2b(3) Waste Pile Inspection

No waste pile storage exists at this facility.

F-2c Remedial Action

If inspections reveal that non-emergency maintenance is needed, it will be completed as soon as possible to preclude further damage and reduce the need for emergency repairs. If a hazard is imminent or has already occurred during the course of an inspection or at any time between inspections, remedial action will be taken immediately. MDC-St. Louis personnel will notify the appropriate authorities per the Contingency Plan and initiate remedial actions. In the event of an emergency involving the release of hazardous constituents to the environment, efforts will be directed toward containing the hazard, removing it, and subsequently decontaminating the affected area. Refer to the Contingency Plan for further details.

F-2d Inspection Log

The inspection log is maintained in a three-ring binder. The inspection log notebook is always kept with the inspection instructions in the Environmental Pollution Control Section office. Records of inspections are kept for at least three years from the date of inspection as required by regulation.

F-3 Waiver of Preparedness and Prevention Requirements

The applicant does not wish to request a waiver of the preparedness and prevention requirements under 40 CFR §264 Subpart C.

4. Local Authority Arrangements

MDC-St. Louis has its own security guard services of more than two hundred twenty-five (225) people. Security guards are constantly on duty. They are classified as licensed private watchmen by the St. Louis County Police Department and have the authority to arrest as would commissioned officers of the St. Louis County Police Department. These security guards and the previously mentioned firemen constitute the local authorities in this situation. In respect to emergencies requiring hospitalization, MDC-St. Louis uses the services provided by Christian Northwest and Deaconess Hospitals for "non-burn" emergencies and R St. John's Mercy Hospital for "burn" emergencies. The "911" emergency telephone system is in effect for this community and would be used in the event an emergency exceeds MDC's capabilities.

5. Emergency Facilities

The St. Louis MDC facilities are serviced by five first aid stations staffed with sixteen nurses. Nurse coverage is provided twenty-four hours per day, five days per week. The plant uses the services of Macon Medical Center, which provides physician coverage at the plant site on the day and evening shift five R days per week. Macon Medical Center physicians are on the staff of both Christian Northwest and Deaconess Hospitals. The physicians are on call twenty-four hours per day, seven days per week. The hazardous materials used at the plant are covered by data sheets available in the Industrial Hygiene Office. In the event that it is necessary to transport an injured employee to the hospital R a Macon Medical Center physician is contacted for instructions and the hospital is notified of the type of injury or exposure. The physicians and nurses are aware of the hazardous materials in their areas and can assist the hospitals in determining exposures.

R

6. Environmental Pollution Control

Environmental Pollution Control, a section of Plant Engineering, implements environmental procedures at the plant. In the event of a pollution emergency, a representative of this group monitors the emergency site and provides assistance and direction for controlling the emergency and cleaning up the area. Environmental Pollution Control is also responsible for notifying the National Response Center (800-424-8802) if the situation requires such action.

7. Duties of Emergency Coordinator

In the event of a pollution emergency, the first person discovering the emergency shall notify the Fire Services at inplant telephone number 22611 and the Guard Services Headquarters at inplant telephone number 22821. They will in turn notify an emergency coordinator, starting at the top of the list and working down. The first person contacted shall be the emergency coordinator for that particular situation and shall act as an "on-site coordinator" and shall coordinate all activities at the emergency site and shall remain there until the situation is over. Evacuating and cordoning the area is the responsibility of Security Services. The MDC-St. Louis Fire Chief shall decide if assistance is required from a local fire department.

E. (G-3) Implementation of the Contingency Plan

1. The decision to implement the contingency plan depends upon whether or not an imminent or actual incident could threaten human health or the environment. The purpose of this section is to provide guidance to the emergency coordinator in making this decision by providing decision-making criteria.

3. 3.1 (Continued)

Location	Tank Capacity Gallons	Number of Tanks	Above or Below Ground	
Bldg. 66	5,000	2	Below	
90	22,000	1	Below	
101	500	1	Below	
102	200	1	Above	
102	1,000	1	Below	
102	20,000	2	Below	
106	5,000	1	Below	
107	4,000	1	Below	
121	100,000	1	Above	
121	50,000	1	Above	

3.2 GASOLINE

Bldg. 3	5,000	1	Below	
3 (Unleaded)	8,000	1	Below	
2	1,000	1	Below	
22	7,500	1	Below	
22	300	1	Above	
22	10,000	1	Below	
41 (Ramp)	8,000 (each)	2	Below	
62	500	1	Above	
62	500	1	Above	
66	300	1	Above	
72	500	1	Above	
91	500	1	Below	
102	500	1	Above	
121	1,000	1	Above	
220	250	1	Above	
250	500	1	Above	
HQ (Unleaded)	5,000	1	Below	
310	1,000 (each)	2	Below	

3.3 JP-4 (JET FUEL)

Bldg. 28 (Trailer)	1,000	1	Above	
28	5,000 (waste)	1	Below	
Hush House	3,380 (waste)	1	Below	
28	5,000 (each)	2	Below	
Ramp (Water Check Sta.)	11,500 (total, trailers)	4	Above	
41	15,000 (each)	4	Below	
62	5,000	2	Below	
F-18 Engine Test Cell	2,000 (waste)	1	Below	
Fuel Pit No. 3	2,000 (waste)	1	Below	R
Fuel Pit No. 4	2,000 (waste)	1	Below	R
Ramp Station 1 and 2	4,380 (waste)	1	Below	R

G. 3. (Continued)

3.5 If oil has already passed this location, then proceed with the Oil Spill Response Trailer to the intersection of Coldwater Creek and Highway I-270 South Service Road (9000 Pershall Road). Install the oil-absorbing media and begin collecting oil, using the floating skimmer as required. NOTE: Under normal flow conditions, oil discharged from Tract II will require seven (7) or more hours to reach Coldwater Creek and Pershall Road.

4. Oil Leak Countermeasure Plan R

4.1 All Tracts - Maintenance Superintendents are responsible for oil leaks in their respective tracts. Immediately upon receiving knowledge of oil leakage, the following steps will be taken.

4.1a Begin action to stop leak. If the leak cannot be stopped immediately by closing valves, installing plugs, etc., the tank must be immediately emptied.

4.1b Begin action to contain the leakage. This can be accomplished by using containers to catch the fluid or by diking and containment.

4.1c If oil has penetrated the ground, one of the following actions must be taken to prevent groundwater contamination.

I If minor, remove contaminated earth and handle as hazardous waste.

II If major, the oil must be retrieved from the groundwater table. This will be accomplished by installing a well that will allow groundwater and oil pumping.

4.2 The leaking tank will be removed from service until repaired.

2.7 Record-Keeping and Reporting Requirements

This section includes the RCRA requirements for types of records, retention times, and reporting requirements.

Section 3 - Emergency Procedures and Contingency Plans

This section discusses the MDC-St. Louis Contingency Plan, Spill Prevention Control and Countermeasures Plan (SPCC), Company Control Procedures relating to emergencies, and Company Standard Maintenance Procedures as they apply to hazardous waste handling.

Based on these definitions, R

Environmental Emergency - A situation which poses a direct hazard to human life, health, property, and equipment. Fire and/or explosion are examples of an environmental emergency. Also, a spill or material release which results in the release of flammable liquids, vapors, or toxic liquids or fumes.

Pollution Upset - Accidental spills/leaks, unavoidable upsets, equipment breakdowns, or any other malfunctions that do not pose a direct threat to human life, health, property, and equipment, but do pose a threat to the environment. Oil spills/leaks or other material loss which may result in environmental pollution.

Facility personnel who handle hazardous waste are trained in the proper R procedure for responding to emergencies. This training includes spoken words in conjunction with a visual presentation and handouts. These personnel are instructed that in the event of an Environmental Emergency,

2.7 (Continued)

the MDC-St. Louis Fire Services and Security Services will be notified immediately. The initial response to such an emergency will be to protect human health and safety, property and equipment, and then the environment. R

The emergency equipment associated with combating fire or explosion is operated by MDC-St. Louis Fire Services personnel. These personnel are included in our training category of "Technical Personnel" and will have received "comprehensive" training. R

This manual is used for classroom training in a tiered manner to provide comprehensive training for some personnel, and more limited training for others. Figure H-3 depicts the depth of training for various job classifications.

H-1c TRAINING PROGRAM PERSONNEL

This Training Program is conducted by members of the MDC-St. Louis Training Department (a highly qualified educational organization) under the technical direction of the Environmental Pollution Control Section of the Plant Engineering Department. The Environmental Pollution Control Section is staffed with a Chemistry major, a Biology/Chemistry major, a Geology/Biology major, and other engineering and technical personnel. In addition, mechanical, electrical, civil/structural, and architectural engineering support is provided by the other branches of the Plant Design and Maintenance Engineering Department, which is currently staffed with approximately 75 engineers and technical personnel. (Copies of the job or position descriptions and the educational and experience backgrounds of the above personnel are on file in the company Personnel Division, and may be reviewed by EPA officials and Missouri DNR upon request.)

I-1c Maximum Waste Inventory

1. Drum storage facility at Bldg. 27 scrap dock - 360 full drums and 396 empty drums
2. Spent caustic tanks east of Bldg. 52 - 20,000 gallons
3. Titanium etch storage tanks at Bldg. 52 - 37,620 gallons
4. Steel chem-mill storage tanks at Bldg. 52 - 2,500 gallons
5. Underground waste jet fuel tank, Bldg. 28 - 5,000 gallons
6. Underground waste jet fuel tank at Fuel Pit #3 - 2,000 gallons
7. Underground waste jet fuel tank behind Hush House - 3,380 gallons R
8. Underground waste jet fuel tank by F-18 Silencer - 2,000 gallons
9. Underground waste oil tank east of Bldg. 6 - 1,000 gallons
10. Sludge Holding tank at Bldg. 14 - 120,000 gallons
11. The explosives storage facility, Bldg. 10 - 100 pounds
12. Underground waste jet fuel tank at Fuel Pit #4 - 2,000 gallons R
13. Underground waste jet fuel tank at Ramp Station 1 and 2 - 4,380 gallons R

I-1d Inventory Removal and Disposal or Decontamination of Equipment R

1. Drum storage facility west of Bldg. 39: Remove all remaining drums and ship to EPA-approved disposal facilities - four weeks. Remove corrosion from metal and empty and decontaminate sump - two weeks. Analyze asphalt overlay to determine if it is contaminated with hazardous waste - one week. Remove asphalt (if hazardous) and dispose of it at an EPA-approved disposal facility - four weeks. Fill sumps with sand and seal with concrete - one week. Either convert the building to other use or demolish it and salvage the metal as scrap iron.

I-1d (Continued)

2. Spent caustic tanks east of Bldg. 52: Remove all liquid and sludge and dispose of it at an EPA-approved disposal facility - four weeks. Hose down the inside of the tanks to remove any residue - one week. Disconnect the piping and pump and thoroughly decontaminate them - one week. Remove the tanks - two weeks. Remove any residue from the asphalt - one week. Analyze samples from asphalt and soil under tanks to determine if it is hazardous - one week. If hazardous, remove asphalt and soil to an EPA-approved disposal facility.
3. Titanium etch storage tanks and steel chem-mill storage tanks at Bldg. 52: Remove all liquid and sludge and dispose of it at an EPA-approved disposal facility - one week. Remove tanks, platform, and piping. Analyze samples from limestone under tanks to determine if it is hazardous - one week. If hazardous, dispose of it at an EPA-approved disposal facility.
4. Underground oil and jet fuel tanks, Bldgs. 6 and 28, Fuel Pit #3, behind Hush House, F-18 Silencer, Fuel Pit #4, and Ramp Station 1 and 2: Remove all oil and jet fuel - one week. Remove all sludge from the bottom of the tank and dispose of jet fuel and sludge at an EPA-approved disposal facility - one week. Excavate and remove the tank - two weeks. Analyze the soil around the tank to determine if it is hazardous - one week. Remove contaminated soil, if required, and dispose of it at an EPA-approved disposal facility - four weeks. Fill the hole or install a new tank - two weeks. R

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

1	2	3	4	5	6	7	8	9	10	11	12	13	T/A 14
F	M	0	D	0	0	0	8	1	8	9	6	3	

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS
23	24 - 29	

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate data)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)* 71

[ ] 2. NEW FACILITY *(Complete item below.)* 71

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C	YR.	MO.	DAY
8	80	11	04
15	73 74	75 76	77 78

FOR NEW FACILITIES PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY
73 74	75 76	77 78

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[X] 1. FACILITY HAS INTERIM STATUS 73

[ ] 2. FACILITY HAS A RCRA PERMIT 72

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S		T/A	C
C	DUP		1
1 2	- 13	14	15

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
	16 - 18	19 - 27	28	29 - 32
X-1	S 0 2	600	G	
X-2	T 0 3	20	E	
1				
2				
3				
4				

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
	16 - 18	19 - 27	28	29 - 32
5	5 0 2	3,380	G	
6				
7				
8				
9				
10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

Line No.	Process Code	Process Design Capacity Amount	Unit of Measure
11	S02	2000	G
12	S02	4380	G

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non—listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous wastes: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

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EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY	
W	MODOOO818963	W	DUP
T/A	1	T/A	2
C		C	DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1					
2					
3					
4	D001	7	T	S02	
5	D001	10	T	S02	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*

F	N	O	D	O	O	O	8	1	8	9	6	3		6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

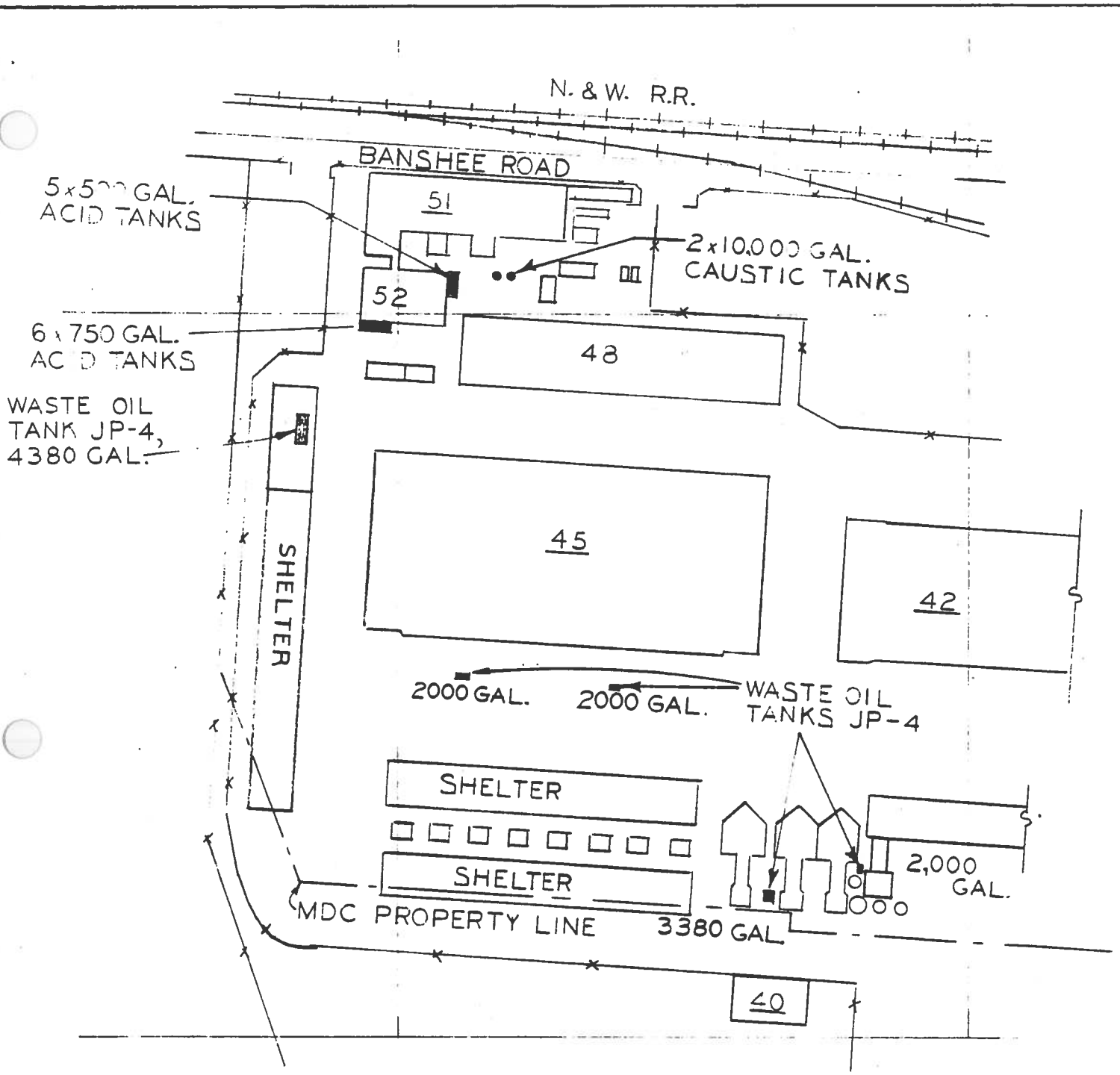
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
Harold D. Altis	Harold D. Altis	9-12-83

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
Robert D. Singleton	Robert D. Singleton	9 SEPT. 1983



REVISION	C.L.C.	9/9/83
SCALE	1" = 200'	
DRAWN	D.L.H.	11/14/80
APPROVED	J. C. Patten	11/14/80
APPROVED	[illegible]	11-14-80
F.O.R.	F.O.R.	

HAZARDOUS WASTES STORAGE AREA
MDC BLDG. 45
SITE PLAN

APPROVED FOR CONSTRUCTION
BY _____
DATE _____

P.O. Box 516 Saint Louis, Missouri 63166
McDONNELL DOUGLAS CORPORATION

PLANT ENGINEERING

SKPE 1280 SH 2

MAC 1327 (REV 23 JUL 71)

LIST OF FIGURES